# 1987 Census of

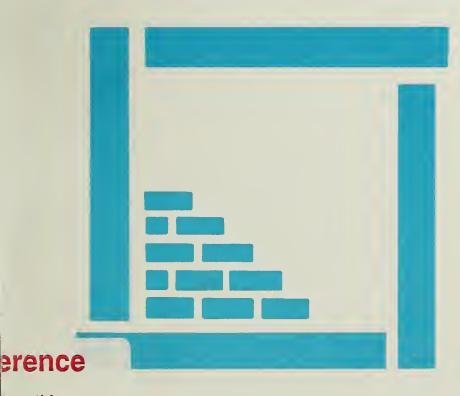
# Census of Construction Industries

CC87-I-12

**INDUSTRY SERIES** 

# **Electrical Work Special Trade Contractors**

Industry 1731



rom this room

### **ACKNOWLEDGMENTS**

Many persons participated in the various activities of the 1987 Census of Construction Industries.

The overall planning and review of the census operations were performed by the staff of the Office of the Assistant Director for Economic and Agriculture Censuses.

This report was prepared in the Construction Statistics Division. Barry A. Rappaport, Assistant Division Chief for Industry Surveys, was responsible for the overall planning, management, and coordination of the census of construction industries. Planning and implementation were under the direction of A. William Visnansky, Chief, Census Operations Branch, with primary staff assistance by Juliana Van Berkum, Barbara J. Hadden, Edward R. Glover, Susan L. Hostetter, Shirley M. Baker, and Carolyn J. Stone. Under the direction of Jesse Pollock, Edward K. Ricketts and Dennis K. Duke developed the sampling plans and variance and estimation specifications.

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If you have any questions concerning the statistics in this report, call (301) 763-7546.

# 1987

# Census of Construction Industries

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INDUSTRY SERIES

### Electrical Work Special Trade Contractors

Industry 1731

Issued August 1989



U.S. Department of Commerce Robert A. Mosbacher, Secretary Michael R. Darby, Under Secretary for Economic Affairs

**BUREAU OF THE CENSUS** 



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### INTRODUCTION

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### PURPOSE AND USES OF THE ECONOMIC **CENSUSES**

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.

Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.

State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.

Trade associations study trends in their own and competing industries, and keep their members informed of market changes.

Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

#### **AUTHORITY AND SCOPE**

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the-

Census of Retail Trade Census of Wholesale Trade Census of Service Industries Census of Transportation Census of Manufactures Census of Mineral Industries Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

### **AVAILABILITY OF THE DATA**

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

### WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

One important change involves receipts of contractors and builders. Prior to 1987, the Census of Construction Industries collected receipts as the primary measure of construction activity. For 1987, the census collected the "value of construction work done" to better measure actual construction activity done during the year. Differences between the two concepts occur when work is done in one year and payment received either from the prior or in the succeeding year. In addition, receipts do not include work a contractor performs for its own account and use.

#### HISTORICAL INFORMATION

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in

other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

### **AVAILABILITY OF MORE FREQUENT ECONOMIC DATA**

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as Current Construction Reports (building permits, housing starts, and value of new construction put in place), Current Business-Reports (retail and wholesale trade and service industries), the Annual Survey of Manufactures, Current Industrial Reports, and the Quarterly Financial Report. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the censuses. The County Business Patterns program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

#### SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the Guide to the 1987 Economic Censuses and Related Statistics. More information on the methodology, procedures, and history of the censuses will be published in the History of the 1987 Economic Censuses. Contact Customer Services for information on availability.

### CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION

The 1987 Census of Construction Industries covers all employer establishments (establishments with payroll) primarily engaged in contract construction, construction on their own account for sale, or in subdividing real property

into lots as defined in the 1987 Standard Industrial Classification (SIC) Manual.¹ This industrial classification system has been developed by experts on classification in government and private industry under the guidance of the Office of Management and Budget and is in general use among government agencies and among organizations outside the government.

**Contract construction**—The SIC manual defines construction in three broad types of activity that follow:

- Building construction by general contractors or by operative builders- General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other building projects. Operative builders who build on their own account for sale are also included here. However, investment builders who build structures on their own account for rent are classified in Real Estate.
- 2. Heavy construction general contractors—Heavy construction general contractors are primarily engaged in the construction of highways, bridges, pipelines, sewers and water lines, marine construction, power, and petro-chemical plants and other nonbuilding construction projects. Special trade contractors are classified in heavy construction if they are specifically engaged in the following activities: grading for highway and airport runways; guardrail construction; installation of highway signs; asphalt and concrete construction of roads, highways, streets and public sidewalks; trenching, cable laying; conduit construction; underwater rock removal; pipeline wrapping; or land clearing and leveling.
- 3. Construction by other special trade contractors—These contractors include plumbers, painters, carpenters, electricians, brick layers, roofers, etc. For the most part, they perform their work at the site of construction, although they may also have shops where they perform work incidental to the job site.

General contractors in both the building and the heavy construction field usually assume responsibility for an entire construction project, but may subcontract to others all of the actual construction work or those portions of the project requiring special skills or equipment. Special trade contractors may work for general contractors, for other subcontractors, or may work directly for the owner of the property.

In addition to the industries classified in the SIC manual as Construction, this census also includes one industry

classified in the Real Estate area, SIC 6552, Land Subdividers and Developers, Except Cemeteries. These establishments are engaged in subdividing real property into lots and in developing it for sale on their own account.

Each establishment receiving a questionnaire was requested to report the percent of total dollar value of business done for each kind-of-business activity engaged in during 1987. This information was used for the computer assignment of appropriate industry classifications. During this work, various tests were also made using other data reported on the questionnaire. The proportion of construction work to total business was checked to verify that the establishment was primarily in construction. Also taken into consideration were the types of structures worked on during the year and the extent of work undertaken for other contractors.

Construction establishments often engage in various construction activities. It is necessary, however, to assign a single industry code to the establishment based on its major activity. Therefore, the statistics shown for an industry reflect not only the primary activity of the establishments in the industry, but also their secondary activities. The industry reports, however, do present data on the extent of secondary activities.

A revised edition of the SIC Manual was issued in 1987. Minor modifications were made to three industries in the construction sector: SIC 1611, Highway and Street Construction Contractors, Except Elevated Highways; SIC 1629, Heavy Construction Contractors, N.E.C; and SIC 1771, Concrete Work Special Trade Contractors. The extent of these modifications are explained in the specific texts for those industries. "Bridge tables" are also included showing selected data tabulated using both the previous classification system and the 1987 revision.

#### ESTABLISHMENT BASIS OF REPORTING

The census of construction industries is conducted on an establishment basis. A "construction establishment" is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such "establishment" activities include, but are not limited to estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each such establishment operated during all or any part of 1987. The census of construction industries figures represent a summary of records for individual establishments rather than for companies. The census tabulations, therefore, differ from those prepared on a company basis.

<sup>&</sup>lt;sup>1</sup>Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

If an establishment engaged in construction and one or more distinctly different lines of economic activity (wholesale or retail trade, service, manufacturing, mining, etc.) at the same place of business, it was requested to file a separate report appropriate to each activity, provided that the activity was of substantial size and separate records were maintained or substantially accurate estimates could be prepared.

If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the 1987 value of construction work exceeded the gross receipts from each of its other activities.

Construction businesses with no payroll during 1987 (nonemployers) were not required to file census reports. Tabulation of data for these businesses are based on administrative records and are shown only in U.S. summary publications and the geographic area reports series. Refer to the section on "Sample Design" for details. Foreign construction activities were not included in this census.

### SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES

The companies included in the 1987 Census of Construction Industries were identified as part of an operation common to all 1987 Economic Censuses. Construction companies were divided into employers (companies with payroll) and nonemployers (companies without payroll). Statistical information for the employers was obtained in the census by a survey which included all medium size and large employers and a sample of the smaller ones. Census reports were not required from the nonemployers. Statistics on them were obtained from administrative records of other agencies of the Federal Government.

### **Employer Companies**

Developing the sampling frame for employer companies—This operation started with obtaining a list of all construction companies in the active records of the Internal Revenue Service (IRS) which were subject to payment of Federal Insurance Contributions Act taxes. The basic source for this list has been the Internal Revenue Service Business Master File, a comprehensive list of companies engaged in business activities in the United States. The file contains the name, address, and form of ownership of each company and also indicates whether or not the company is subject to the FICA. Each company in this file is assigned a unique employer identification (EI) number which it uses in filing its various reports with the IRS. The Social Security Administration (SSA) maintains a similar list using the same identification numbers, which also contains information on the industrial classification of each company. The Bureau of the Census obtained both of these lists and combined them.

Under special arrangements which safeguarded the confidentiality of the information, the Bureau also obtained administrative records data on payrolls and receipts and added these data to the combined list. The list, thus created from the IRS-SSA information, was a list of employer companies. However, for the 1987 Economic Censuses the basic reporting unit is the "establishment." Therefore, steps were taken to identify the individual establishments of those companies which operate more than one place of business. The information for making this determination was obtained by means of the Company Organization Survey (COS), an annual canvass of all known multiestablishment companies and large single-establishment companies. Thus, the 1987 Economic Census list for singleestablishment employer companies was obtained from the IRS-SSA, but the list of establishments of multiestablishment employer companies was obtained directly from those companies in the COS. Refer to the section on "Establishment Basis for Reporting" for details.

In general, the IRS-SSA list provided sufficient industrial classification data to assign a company to the proper economic census, but there were a number of companies for which this information was inadequate or unavailable. A special form, NC-9923, General Schedule, was mailed to all such companies, requesting information on the nature of the company's activities. From the information reported, the company was given an industrial classification code and assigned to the appropriate economic census. Since construction companies found in this way were identified only after the regular census mailing had taken place, they were treated as a supplement to the basic list.

Selecting the employer sample—The sample was designed to provide reliable State and metropolitan area estimates for each construction industry. It consisted of all construction establishments in multiestablishment companies, all single-establishment companies with estimated total employment of 20 employees or more, and a probability sample of single-establishment companies with estimated employment of fewer than 20 employees.

Supplementing the sample were construction companies identified from the NC-9923, General Schedule. Also affecting the sample were the misclassified companies; i.e., companies included in the samples of other trade areas which reported they were construction companies and companies originally classified in construction which reported they were not construction companies.

Of the 533,000 single-establishment employer companies initially classified as construction companies, 147,000 were included in the sample. All of the 13,000 establishments of multiestablishment companies were included in the sample. There was a net increase in the sample of 60,000 establishments resulting from establishments originally unclassified (receiving the NC-9923) or misclassified.

The probability sample of the smaller single-establishment companies was a stratified random sample. Strata were formed from all establishments with the same initial fourdigit SIC code, in the same State, in the same metropolitan area or in the balance of the State, and in the same size class based on estimated total employment. If the four-digit SIC code for an establishment was incomplete, the establishment was placed in a stratum for miscellaneous companies. Because they were small, all companies were included in the sample for the following three industries: SIC 1622, Bridge, Tunnel, and Elevated Highway Construction Contractors; SIC 1795, Wrecking and Demolition Work Special Trade Contractors; and SIC 1796, Installation or Erection of Building Equipment Special Trade Contractors.

Estimation procedures for 1987 and 1982 data—Since all larger employer companies and some smaller ones were included in the census, sample estimation was required only for the universe of companies not selected with certainty. The published statistics are the totals of the estimates for the sampled companies and the aggregates for the certainty companies. All estimates for 1987 and 1982 published here are simple unbiased estimates of the form:

where: x'c is the simple unbiased estimate of a characteristic for a publication cell.

x. is the reported value of a characteristic for an individual establishment in the publication cell.

 $\boldsymbol{p}_{i}$  is the selection probability of that firm.

n is the number of firms in the sample for the cell.

Data for certain characteristics were reported as a percentage of the dollar value of business done. Before this formula was applied to those characteristics, it was necessary to convert the reported percentages into dollars.

Reliability of employer statistics—Since the estimates for employer establishments in these reports are based on the samples, they are subject to sampling variability and may be expected to differ from results which would have been obtained if a complete census had been taken using the same forms and procedures. The sampling errors shown in the tables were estimated directly from the sample reports, using methods appropriate for the sample design and form of estimation used.

The relative standard error is a measure of sampling variability, i.e., the variation that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the relative standard error also partially reflects the effect of random errors of response and processing, but it does not take into account the effect of any consistent biases due to those types of errors. The chances are about 68 out of 100 that an estimate from the

sample would differ from a complete census by less than the relative standard error. The chances are about 95 out of 100 that the difference is less than twice the relative standard error and about 99 out of 100 that it is less than 2-1/2 times the relative standard error. Individual estimates with large relative standard errors have been shown in the published tables. Any such estimates should be used with caution. The very large relative standard errors generally occur for the smaller estimates.

Relative standard errors have been calculated for all of the published statistics, although they are shown for each statistic only in the tables presenting detailed statistics. Other tables show relative standard errors only for certain characteristics because of lack of space.

As calculated for this report, the relative standard error measures certain nonsampling errors, but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples with the same size and design, between the estimates and the true value being estimated. Nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of respondents to provide correct information; and errors made in processing the data. Although no direct measurements of the biases have been obtained, it is believed that most of the important response and operational errors were detected in the course of reviewing the data for reasonableness and consistency.

A potential source of bias is in the imputation for those establishments that have not responded by the time of final publication. Data were estimated for establishments that did not report by that date, although selected establishments were contacted again to obtain as much information on the telephone as possible. Some publication cells in which more than 40 percent of the data were not reported have been suppressed.

### **Nonemployer Companies**

As described earlier, the information derived from the business income tax returns of all companies was matched to the census employer file on the basis of common identification numbers. Those business income tax returns which could not be matched, were further classified on the basis of several characteristics. Returns with characteristics consistent with companies without payroll were treated as nonemployers. The nonemployer construction companies were not required to file census reports.

For "number of establishments," each separate income tax return was assumed to be an establishment. "All business receipts" was based on receipts information reported on the tax return.

Since no sampling was involved in the nonemployer establishments, the statistics for nonemployers are not subject to sampling variability. However, these data are subject to an unknown amount of reporting and processing errors which could not be detected by the Census Bureau.

#### **CENSUS REPORT FORMS**

Information for the 1987 Census of Construction Industries was obtained from employer establishments primarily through the use of twenty-four questionnaires, determined by industry classification and size. Standard forms and short forms were developed for each of the following SIC groups: 15, 16, 171, 172, 173, 174, 175, 176, 177, 178, and 179 and for the establishments classified in SIC 6552. Establishments with 50 or more employees all received the standard form. A sub-sample of establishments with fewer than 50 employees received short forms instead of the standard forms. The short forms covered only major items and omitted some of the detail found in the longer forms.

In reviewing and developing the questionnaires, comments and recommendations were elicited from construction trade associations and appropriate advisory groups. The Bureau surveyed several thousand firms representing all economic activities to gain insight into the way companies maintain records and to see whether new information could be collected.

### **DATA PROCESSING**

The 1987 census report forms were mailed out in December 1987. They were mailed from and returned to the Census Bureau's Data Preparation Division in Jeffersonville, Ind., where routine editing and coding of the report forms were also accomplished. Collection of these report forms was essentially completed in July 1988.

The returned reports underwent extensive processing. A preliminary edit done at the time of data entry identified obviously deficient reports and reports needing clarification. When necessary, these problems were resolved by further contact with the respondents. Next, the data were transmitted to Census Bureau headquarters near Washington, D.C.

Data records, then, underwent a detailed computer review and analysis. The records containing significant problems were referred for further analytical review and, if necessary, contacts were made with the respondents. The computer performed most classification coding (such as industry coding, geographic coding, and size coding), and imputation for missing items or for reports not received in time for tabulation. The imputation was performed on an industry (or industry group)-State (or geographic group) basis using all available response and administrative data.

The data records were then tabulated on an industry basis. Industry totals were subjected to analytical review, and selected statistics were prepared for the preliminary reports. Corrections resulting from this review were made to the computer records and final tabulations were produced.

The review of a preliminary report for an industry often uncovered the need for corrections or revisions to the data for another industry for which a preliminary report had already been published. The final reports incorporate all revisions and corrections made during the review of the preliminary reports and contain considerable more data than were published in those reports.

### **GEOGRAPHIC CLASSIFICATION**

Information for the 1987 Census of Construction Industries' final industry report series is classified on the basis of two types of geographic distributions: (1) physical location of the establishment, and (2) location of construction work. A separate code was assigned on each basis allowing us to present data by both physical locations of the establishment and location of construction work.

The geographic area reports series presents similar data by industry for each State (physical location of the establishment) and for selected MSA's, CMSA's and PMSA's.

### DUPLICATION IN VALUE OF CONSTRUCTION WORK

The aggregate of value of construction work reported by all construction establishments in each of the several industry, geographic area, or other groupings in this census, contains varying amounts of duplication, since the construction work of one firm may be subcontracted to other construction firms and also be included in the subcontractors' value of construction work. To avoid this duplication, a "net" value of construction work figure has been derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work.

Duplication in value of business between other construction and nonconstruction industries, results from the use of products of these other industries as input materials by construction establishments. "Value added," avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or areas. "Value added," is defined in the 1987 Census of Construction Industries as equal to dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels. However, for SIC 6552 and SIC 1531 where land receipts are significant, land receipts are also subtracted from dollar value of business done.

#### SPECIAL TABULATIONS

Special tabulations of data collected in the 1987 Census of Construction Industries may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact and detailed specifications of the type and format of the data to be provided, should be directed to the Chief, Construction Statistics Division, Bureau of the Census, Washington, D.C., 20233.

To discuss a special tabulation before submitting specifications, call 301-763-7546.

### COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA

Data contained in the reports of the 1987 Census of Construction Industries are not the same as the data published in the Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity, whereas the construction census figures cover both new construction and maintenance and repair work done by establishments classified in the construction industry. Significant amounts of construction are done by establishments classified outside of construction (in real estate, manufacturing, utilities and communications, for example), both as "force account" construction and construction done for others. In addition, the value in place series includes constructionrelated expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in the Census of Construction.

Data contained in the reports of the census of construction industries may also differ from industry data in "Employment and Earnings Statistics," published by the Bureau of Labor Statistics, and "Statistics of Income," published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

#### ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

- \* Sampling error exceeds 40 percent.
- \*\* Represents the sum of all employees during pay periods including 12th of March, May, August, and November, divided by 4.
- Represents zero.
- † Represents value of construction work less costs for construction work subcontracted to others. (See Duplication in Value of Construction Work.)
- the Represents dollar value of business done less costs for construction work subcontracted to others, and costs for materials, components, supplies, and fuels. In SIC's 1531 and 6552, land receipts are also subtracted from dollar value of business done. (See Duplication in Value of Construction Work.)
- (D) Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
- (NA) Not available.
- (S) Withheld because estimate did not meet publication standards on the basis of either the response rate, associated relative standard error, or a consistency review.
- (W) Greater than zero but less than 1 percent.
- (X) Not applicable.
- n.s.k. Not specified by kind.

## Users' Guide for Locating Statistics in This Report by Table Number

Statistics	For U.S.	By State	By employment size	By size class of dollar value of business done	By type, class, ownership, kind of business, and location of construction <sup>1</sup>	By specialization in types of constuction
Assets and depreciation (gross book value):  Beginning of year—buildings, machinery and equipment.  End of year—total.  End of year—buildings, machinery and equipment.  Depreciation charges during year—buildings, machinery and equipment.	3 1, 3 3 3	1	5	6		
Capital expenditures: Total capital expenditures New buildings—machinery and equipment Used buildings—machinery and equipment	1, 3 3 3	1	5	6		
Communication services, costs for	2					
Employees: All employees—average number Construction workers—average number. Other employees—average number.	1, 2 1, 2, 9 2	1 1, 9	5	6		8
Employer costs for fringe benefits—legally required and voluntary expenditures	2					
Establishments—number in business during year	1, 2, 4, 9	1, 9	5	6		8
Hours—construction workers: Total Quarterly	1, 2, 9 2, 9	1, 9	5	6		
Inventories	4					
Materials, components, supplies, and fuels—costs for	1, 2	1	5	6		
Payroll: First quarter, all employees. Annual: All employees. Construction workers Other employees.	2 1, 2 1, 2 2	1	5	6		8
Power, fuels, and lubricants—costs for	2					
Proprietors and working partners	2					
Ratios, State	13	13				
Value and receipts:  Dollar value of business done, total  Value of construction work, total  For work subscontracted in from others.  Other business receipts and land receipts <sup>2</sup> Net value of construction work.	2 1, 2, 4 2 2 1, 2	1	5 5 5	6 6	11 2, 7, 10	8
Value added	1, 2	1	5	6		8
Rental costs: Total. For machinery and equipment For buildings.	1, 2 2 2	1	5	6		
Repairs to buildings and other structures	2					
Repairs to machinery and equipment	2					
Selected industry ratios	12					
Subcontract work to others, costs for	1, 2	1	5	6		8

Note: Data for 1982 and earlier years are also available in some of these tables.

<sup>&</sup>lt;sup>1</sup>Type—buildings, roads, etc. Class—new construction; additions, alterations, or reconstruction; or maintenance and repair work. Ownership—private or government owned.

<sup>&</sup>lt;sup>2</sup>Land receipts are shown separately for SIC's 1531 and 6552 in table 3.

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### **SUMMARY OF FINDINGS**

Establishments classified in this industry are primarily engaged in electrical work at the construction site. This industry also includes establishments engaged in the installation of telecommunication equipment, sound equipment, burglar alarms, fire alarms, and telephones. For additional examples, refer to the 1987 Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget, Executive Office of the President.

During 1987, the establishments with paid employees classified in this industry accounted for \$36.3 billion in total dollar value of business. Of this amount, \$35.8 billion were for the value of construction work. These establishments paid out \$12.8 billion for materials, components, and supplies and \$1.2 billion for construction work subcontracted to others. Costs for selected power, fuels, and lubricants for this industry were \$488 million. Value added for 1987 was \$21.8 billion.

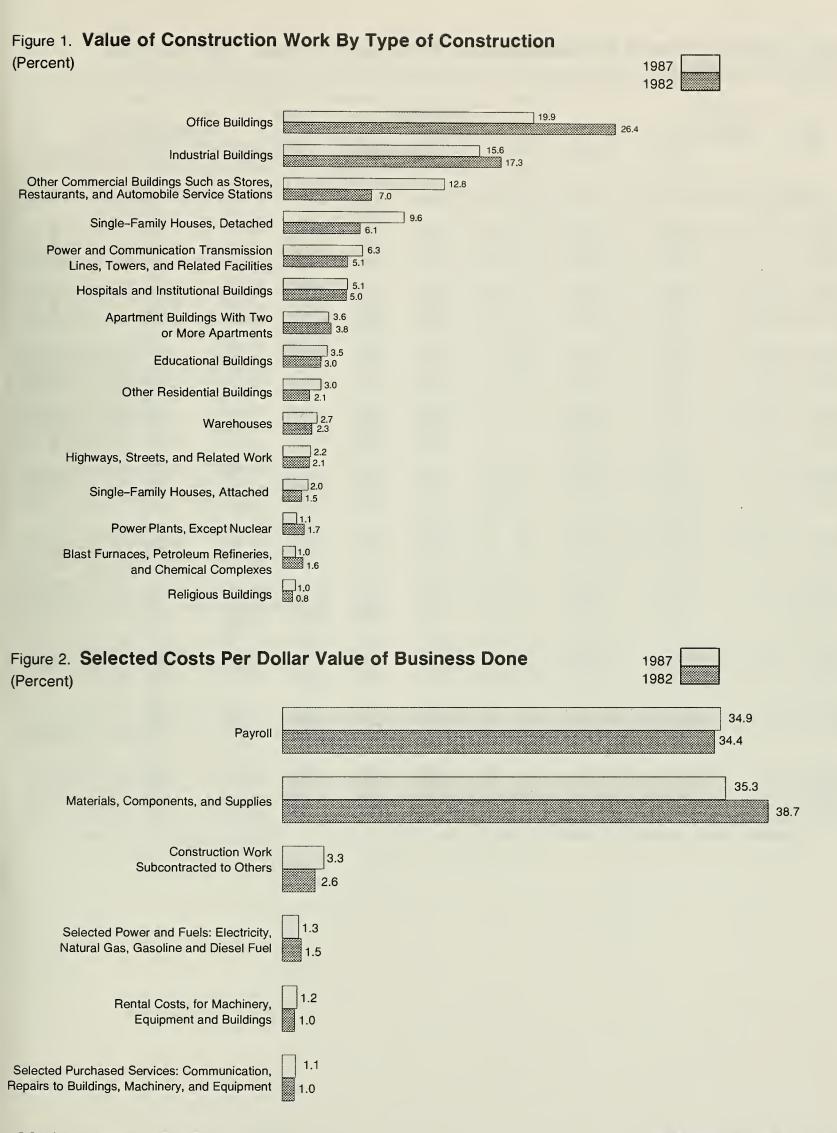
There were 49,436 establishments with total employment averaging 509,309 during the year. Total payroll for 1987 was \$12.7 billion. Total hours worked by construction workers during the year were 732 million hours.

Establishments with 10 employees or more, while representing only 22 percent of the total number of employer establishments in this industry accounted for 78 percent of all business done.

A "construction establishment" is defined as a relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. A separate census report was required from each sampled establishment covering domestic operations. Separate reports were not, however, required for each project or construction site.

In 1987, the value of construction work was collected to better measure actual construction activity done during the year. Construction receipts, as reported in earlier censuses, may have included the value of work done before or after the calendar year and may have excluded the value of work in progress during the calendar year. Receipts may have also excluded work done by builders engaged in construction for sale on their own account or for their own use. All dollar values are shown in current dollars for the years specified and have not been adjusted for inflation.

The data in this report are estimated from a sample survey and are subject to sampling variability as well as errors of response and nonreporting. The relative standard error shown in the tables is a measure of sampling variability. Descriptions of the sampling, estimating procedures, and data reliability are included in the introduction.



### Table 1. General Statistics for Establishments With Payroll by State: 1987 and 1982

				1	987			
		Emplo	yees**	Pay	roll			
Location of establishment	Number of establishments	Ali	Construction workers	All employees	Construction workers	Construction worker hours (thousands)	Value of construction work	Value of construction work†
	А	В	C	D	E	F	G	н
United States	49 436	509 309	405 961	12 663 516	9 <b>621</b> 993	732 100	35 <b>8</b> 38 <b>22</b> 6	34 657 765
Alabama	600	6 813	5 572	129 211	98 862	10 259	401 661	382 197
	147	917	680	34 410	25 927	1 184	101 691	98 721
	877	8 298	6 496	162 088	118 267	11 328	520 045	505 202
	415	2 729	2 106	47 569	35 829	3 730	157 870	151 040
	5 753	57 797	44 987	1 597 436	1 186 941	76 374	4 866 723	4 596 165
Colorado	889	8 173	6 429	190 927	143 900	10 891	566 983	553 539
	1 017	8 534	6 768	232 525	176 867	12 299	641 327	627 963
	155	1 622	1 281	37 490	27 860	2 116	108 491	106 036
	38	1 629	1 369	53 577	41 084	2 650	121 580	117 265
	3 073	36 281	29 341	674 058	515 028	53 662	1 998 988	1 936 889
Georgia	1 218	16 633	13 821	369 426	298 375	25 789	1 014 997	989 326
Hawaii	221	1 949	1 538	55 743	42 682	2 917	198 600	190 778
Idaho	218	1 116	846	19 343	14 417	1 225	61 817	60 745
Illinois	1 881	23 636	18 903	761 382	595 241	35 392	1 970 662	1 916 645
Indiana	888	9 571	7 658	240 549	185 813	14 335	637 738	618 690
lowa	481	3 293	2 607	67 197	52 657	4 695 6 568 8 169 11 435 3 131	206 954	203 491
Kansas	425	4 527	3 495	109 554	82 228		309 805	300 522
Kentucky	601	5 539	4 460	108 580	83 481		329 504	309 749
Louisiana	766	7 874	6 358	169 453	127 967		493 263	479 777
Maine	355	2 065	1 627	41 085	32 152		131 004	129 593
Maryland	963	14 646	11 859	329 958	246 386	21 012	942 257	927 043
	1 807	17 067	13 798	437 630	335 724	24 920	1 203 412	1 178 129
	1 568	15 096	11 800	445 080	337 754	21 633	1 228 011	1 185 682
	945	8 581	6 823	249 798	190 170	12 243	687 612	672 712
	330	2 277	1 804	41 094	30 239	2 921	126 990	121 901
Missouri	808	9 164	7 076	249 850	183 620	12 162	698 478	681 117
	172	756	560	14 989	11 425	892	44 169	43 051
	404	2 641	2 032	58 457	44 782	3 808	175 141	167 097
	247	2 768	2 211	73 319	56 147	4 323	244 191	227 968
	418	2 609	2 021	53 518	40 884	3 978	166 088	164 536
New Jersey	2 246	20 708	16 725	567 965	444 006	30 336	1 504 610	1 462 553
	412	2 805	2 117	59 240	42 336	3 662	207 144	190 059
	3 599	45 658	36 913	1 450 701	1 119 155	68 001	3 803 434	3 718 233
	1 619	16 338	13 408	297 163	226 160	24 958	880 489	842 177
	218	980	741	18 180	13 888	1 496	56 340	55 098
OhioOklahomaOregonPennsylvaniaRhode Island	1 613	16 303	12 989	423 268	333 020	23 504	1 160 626	1 126 339
	593	4 006	3 070	79 431	59 984	5 396	231 531	220 406
	514	4 214	3 214	99 516	74 867	5 065	301 654	290 251
	2 035	20 678	16 354	572 844	413 376	30 688	1 530 536	1 474 721
	287	1 883	1 469	48 835	37 570	2 632	138 815	135 947
South Carolina	645	9 542	7 978	176 956	136 130	15 169	455 758	440 323
	170	730	579	11 229	8 935	841	40 111	39 241
	727	11 012	9 215	259 154	192 320	16 560	648 989	626 948
	3 153	32 827	25 648	690 544	514 730	45 758	2 065 300	1 997 290
	323	2 612	2 046	59 990	46 586	3 677	192 262	184 502
Vermont	202	1 056	809	20 577	15 177	1 521	65 946	65 549
	1 272	14 928	12 052	311 846	231 399	22 257	923 952	899 913
	912	8 564	6 596	223 476	163 396	10 976	638 499	617 770
	201	1 742	1 419	38 462	31 812	2 411	96 078	95 141
	853	7 128	5 527	179 129	139 391	9 759	483 991	476 474
	138	969	737	19 692	15 027	1 371	56 090	55 236

In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

		1987—	Con.				1982					
Value added††	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	All employees**	Total construction receipts <sup>1</sup>	Value added††	error (pe	ive star of estir ercent) olumn-	mate for	Location of establish- ment
1	J	К	L	М	N	0	Р	Q	В	Н	M	
21 818 478	13 276 327	1 180 462	439 244	495 613	3 336 958	434 764	25 948 527	15 122 619	(W)	(W)	1	U.S.
231 415	162 604	19 464	3 628	7 290	42 136	4 487	204 512	106 264	3	3	12	AL
64 367	35 057	*2 969	2 134	621	21 575	3 452	234 373	152 915	5	5	36	AK
288 185	222 506	14 842	8 655	8 542	51 018	5 913	340 408	173 422	3	2	10	AZ
82 783	70 186	6 829	1 760	2 086	18 214	2 261	106 798	56 067	5	4	21	AR
2 864 566	1 800 959	270 557	69 160	56 388	373 395	45 261	3 347 408	1 985 527	1	1	4	CA
343 119	215 471	13 443	8 482	5 648	61 084	8 929	666 409	351 632	2	1	10	CO
414 076	219 011	13 363	6 191	10 965	56 160	5 452	344 373	195 638	2	2	8	CT
66 166	40 367	2 454	1 390	1 447	9 382	1 256	61 302	39 698	4	3	23	DE
92 759	25 756	4 314	803	1 024	6 308	846	48 420	27 165	3	3	33	DC
1 130 468	827 685	62 099	24 602	30 898	192 325	25 689	1 267 293	699 835	1	1	5	FL
591 857	404 422	25 670	12 452	16 005	81 630	11 688	620 470	375 395	1	1	13	GA
117 010	76 496	7 821	3 279	2 938	18 602	1 297	112 311	71 723	4	3	11	HI
35 589	28 097	1 072	524	1 030	9 530	933	53 770	30 707	7	7	34	ID
1 264 271	671 243	54 017	19 480	22 132	160 590	20 347	1 342 311	863 287	1	1	6	IL
402 616	224 956	19 047	6 704	9 192	53 660	7 596	454 062	279 690	2	2	9	IN
113 136 189 133 182 408 307 552 76 734	92 555 115 599 131 133 176 042 53 439	3 462 9 282 19 754 13 486 1 411	2 310 3 877 4 123 6 457 1 114	2 660 5 363 4 416 3 802 3 581	28 793 47 824 44 650 51 624 15 300	3 157 2 819 3 789 12 384 1 181	169 638 162 332 179 450 726 187 61 356	98 819 96 150 106 162 423 237 32 279	4 3 3 2 5	3 3 2 5	10 11	KY
577 073	364 649	15 213	10 611	18 962	94 789	9 450	569 596	299 747	2	2	6	MD
738 822	444 883	25 283	10 969	21 042	97 210	10 052	625 759	375 889	1	1	6	MA
785 131	418 599	42 329	13 056	19 900	124 788	10 717	736 879	441 214	2	1	5	MI
416 607	266 400	14 899	7 247	10 537	66 469	7 381	472 901	279 502	2	2	11	MN
72 997	50 654	5 089	1 556	1 637	13 105	1 974	84 181	46 226	6	5	24	MS
438 291	250 072	17 361	7 353	9 734	64 865	8 971	607 165	353 381	2	2	11	MO
27 956	17 081	1 117	499	*1 005	8 393	964	53 639	31 860	6	6	52	MT
101 639	67 788	8 043	1 653	2 139	17 468	3 912	212 797	123 228	3	5	17	NE
144 674	85 430	16 222	5 374	3 840	23 690	1 812	128 972	79 131	8	6	16	NV
93 314	72 284	1 551	1 611	4 614	20 819	2 177	124 303	67 442	4	4	12	NH
941 688	530 611	42 057	18 789	19 032	117 189	14 081	904 331	517 706	1	1	7	NJ
109 824	82 443	17 085	2 210	3 208	31 090	2 752	135 494	62 797	4	3	12	NM
2 560 223	1 182 895	85 200	38 235	34 370	216 198	45 891	2 386 264	1 437 244	1	1	5	NY
469 587	384 094	38 312	12 722	13 235	92 600	11 175	530 616	245 053	2	2	8	NC
30 485	25 143	1 242	809	473	17 477	1 511	84 859	44 741	9	9	39	ND
700 895	440 616	34 287	11 176	15 904	96 861	13 140	799 768	475 749	1	1	7	PA
129 881	93 092	11 125	3 406	3 318	38 906	5 778	298 240	175 874	4	3	15	
184 236	119 734	11 402	3 553	5 052	33 166	3 167	224 167	131 156	5	3	9	
983 939	514 207	55 814	16 839	20 626	134 635	16 609	1 114 402	603 550	1	1	8	
87 134	50 911	2 868	1 371	2 106	15 967	1 547	83 924	50 679	5	3	17	
281 256 21 616 398 487 1 226 320 100 874	162 536 18 688 243 212 799 246 86 819	15 435 869 22 041 68 010 7 760	8 049 485 8 210 30 991 3 304	14 115 1 218 10 959 23 168 2 500	70 452 5 927 63 768 259 367 20 534	10 555 778 7 419 41 027 2 855	428 660 28 875 441 819 2 415 998 180 750	293 880 14 487 235 822 1 398 533 91 966	2 11 2 1 4	2 10 2 1 5	4 30 10 6 19	TN TX
36 384	29 806	397	635	1 264	9 974	749	34 524	18 141	7	8	23	VT
534 661	372 083	24 038	13 303	17 759	94 900	9 746	483 407	281 132	2	2	7	VA
374 243	258 069	20 729	11 336	8 879	64 132	9 251	696 125	444 937	2	2	10	WA
64 001	32 700	936	871	650	10 750	2 342	108 262	70 150	6	5	23	WV
294 711	194 033	7 516	4 783	7 286	53 366	6 537	354 985	210 843	2	2	7	WI
33 298	23 941	854	1 092	*1 032	14 280	1 687	93 666	54 928	8	8	43	WY

### Detailed Statistics for Establishments With Payroll: 1987 and Earlier Census Years

(modalis dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols	, see mireducte	Ty text. Tor exp	and on or term	o, see appendix		ive stand	dard en	ror of
ltem						stimate (		
	1987	1982	1977	1972	1987	1982	1977	1972
Number of establishments in business during year	49 436	39 563	36 764	32 455	(W)	1	1	2
Proprietors and working partners	11 406	11 792	18 574	17 728	2	2	2	3
All employees**	509 309	434 764	356 591	323 748	(W)	(W)	(W)	1
Construction workers:  March May August November Average	395 113 396 921 422 196 409 699 405 961	345 368 348 303 356 276 342 666 351 894	277 202 291 843 309 833 308 046 296 946	250 956 260 852 284 762 277 080 271 441	(%) (%) (%) (%) (%)	(W) (W) (W) (W) 1 (W)	\$	1 1 1 1
Other employees:  March  May  August  November  Average	101 194 103 171 103 391 105 582 103 347	82 748 (NA) (NA) (NA) (NA)	58 138 (NA) (NA) (NA) (NA)	51 332 (NA) (NA) (NA) (NA)	1 1 1 1	1 (NA) (NA) (NA) (NA)	1 (NA) (NA) (NA) (NA)	1 (NA) (NA) (NA) (NA)
Construction worker hours (thousands):  January to March	173 163 179 844 192 009 187 083 732 100	142 204 147 077 150 301 145 642 585 226	(NA) (NA) (NA) (NA) (NA)	(NA) (NA) (NA) (NA) (NA)	(%) (%) (%) (%) (%)	(W) (W) 1 1 (W)	(NA) (NA) (NA) (NA) (NA)	(NA) (NA) (NA) (NA) (NA)
Payroll, all employeesPayroll, construction workersPayroll, other employees	12 663 516 9 621 993 3 041 522	9 106 563 7 346 536 1 760 027	5 482 519 4 496 695 985 825	3 792 682 3 151 047 641 635	(W) (W) (W)	(W) (W) (W)	(V) (V) (V)	1 1 1
First quarter payroll, all employees	2 957 539	2 164 750	1 220 111	(NA)	(W)	(W)	(W)	(NA)
Employer costs for fringe benefits, all employees Legally required expenditures Voluntary expenditures	2 962 599 1 927 854 1 034 745	1 619 494 1 241 780 377 714	1 094 744 501 993 592 751	(NA) (NA) (NA)	(W) (W) (W)	(W) (W) (W)	(W) (W) (W)	(NA) (NA) (NA)
Dollar value of business done	36 275 257 35 838 226 16 067 963 (NA) 437 030	26 441 085 25 948 527 10 822 978 (NA) 492 558	14 481 842 14 221 277 6 928 640 (NA) 260 565	9 608 035 9 448 881 3 933 188 (NA) 159 154	(W) (W) 1 (NA) 2	(W) (W) 1 (NA)	(W) (W) (W) (NA)	1 1 1 (NA) 2
Net value of construction work†	34 657 765	25 252 434	13 919 122	9 229 369	(W)	(W)	(W)	1
Value added††	21 818 478	15 122 619	8 748 490	5 796 631	(W)	(W)	(W)	1
Selected costs  Materials, components, and supplies³ Construction work subcontracted to others Selected power, fuels, and lubricants Electricity Natural gas Gasoline and diesel fuel On highway use Off highway use Other, including lubricating oils and greases	14 456 790 12 788 495 1 180 462 487 832 81 132 16 935 362 957 337 671 25 286 28 688	11 318 466 10 234 565 696 092 387 808 56 613 13 679 294 679 (NA) (NA) 22 836	5 733 353 5 239 950 302 156 191 247 27 989 8 881 140 452 (NA) (NA) 13 926	3 811 404 3 591 892 219 512 (NA) (NA) (NA) (NA) (NA) (NA) (NA) (NA)	(W) (W) 3 1 1 1 1 1 2 2	(W) (W) 1 1 1 2 1 (NA) (NA)	(X) (X) 2 1 1 3 1 (NA) (NA) 2	1 1 3 (NA) (NA) (NA) (NA) (NA) (NA)
Rental cost for machinery, equipment, and buildings	439 244 201 939 238 573	238 416 133 087 105 329	104 368 59 322 45 046	(NA) 38 028 (NA)	1 1 1	1 1	1 1 1	(NA) 3 (NA)
Selected purchased services  Communication services  Repairs to buildings and other structures  Repairs to machinery and equipment	416 676 198 070 36 019 183 395	271 747 119 242 23 866 128 638	177 895 74 206 14 250 89 439	(NA) (NA) (NA) (NA)	1 1 2 1	1 1 1 1	3 2 2 5	(NA) (NA) (NA) (NA)
Ownership of construction projects:  Value of construction work¹ Government owned Federal State and local Privately owned	35 838 226 6 270 845 2 072 994 4 197 850 29 567 381	25 948 527 3 743 799 (NA) (NA) 22 204 727	14 221 277 2 525 096 (NA) (NA) 11 696 182	9 448 881 2 494 828 (NA) (NA) 6 954 053	(W) 1 4 1 (W)	(W) 1 (NA) (NA) (W)	(V) (V) (NA) (NA) (VA)	1 1 (NA) (NA)

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.
²Data were collected separately for establishments classified in SIC 1531, Operative Builders, and SIC 6552, Subdividers and Developers, Except Cemeteries. For all other industries, data are included in other business receipts.
³For 1972, includes data for power, fuels, and lubricants.

### Table 3. Assets, Capital Expenditures, and Depreciation for Establishments With Payroll: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item				l error of estimate cent)
	1987	1982	1987	1982
BUILDINGS AND OTHER STRUCTURES, MACHINERY, AND EQUIPMENT				
Beginning-of-year gross book value of depreciable assets Capital expenditures, other than land New Used Retirements and disposition of depreciable assets	2 966 533 495 613 387 094 108 519 125 188	3 253 896 358 780 276 746 82 033 112 500	1 1 1 3 2	1 1 1 2 2
End-of-year gross book value of depreciable assets	3 336 958	3 500 176	1	1
Depreciation charges during year	442 076	481 416	1	. 1
Buildings and other Structures, Additions, and Related Facilities				
Beginning-of-year gross book value of depreciable assets Capital expenditures, other than land New buildings and other structures Used buildings and other structures Retirements and disposition of depreciable assets	774 678 80 605 51 657 28 948 17 780	546 701 55 009 40 387 14 622 12 348	2 4 4 9 5	1 2 2 3 8
End-of-year gross book value of depreciable assets	837 503	589 363	2	1
Depreciation charges during year	77 985	90 696	2	1
Machinery and Equipment				
Beginning-of-year gross book value of depreciable assets  Capital expenditures, other than land  New machinery and equipment, including automobiles and trucks  New automobiles and trucks, intended primarily for highway use  Used machinery and equipment, including automobiles and trucks  Retirements and disposition of depreciable assets	2 191 855 415 008 335 437 226 797 79 570 107 408	2 707 214 303 770 236 359 133 077 67 411 100 151	1 1 1 2 3 2	1 1 1 2 2 1
End-of-year gross book value of depreciable assets	2 499 455	2 910 833	1	1
Depreciation charges during year	364 090	390 719	1	1

### Table 4. Value of Inventories for Establishments With Payroll: 1987 and 1986

Item	Establishments with payroll	Relative standard error of estimate (percent)
All establishments:  Number Value of construction work	49 436 35 838 226	(W) (W)
Establishments with inventories:  Number	26 160 21 636 195 735 744 684 928	1 1 1 1
Establishments with no inventories:  Number	16 336 8 699 <b>7</b> 53	2 1
Establishments not reporting:  Number  Value of construction work	6 940 5 502 278	3 1

¹Inventories at cost or market prior to any adjustment to correct to LIFO values.

### Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

					Establishm	ents with an a	average of -			
Selected statistics	Total	1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 to 99 employees	100 to 249 employees		500 to 999 employees	1,000 employees or more
1987										
Number of establishments  All employees** Payroll, all employees Construction worker hours (thousands) Dollar value of business done Value of construction work¹ Net value of construction work†	49 436 509 309 12 663 516 732 100 36 275 257 35 838 226 34 657 765	27 825 60 260 938 622 76 632 3 808 477 3 767 334 3 581 585	10 566 71 809 1 363 838 92 892 4 124 135 4 072 782 3 973 471	5 989 82 715 1 836 894 114 381 5 362 135 5 276 754 5 134 548	3 503 104 984 2 698 647 151 266 7 665 606 7 550 243 7 313 631	951 65 232 1 831 527 100 173 5 036 597 4 984 708 4 819 188	484 71 567 2 220 646 114 181 5 865 933 5 781 821 5 561 665	89 30 252 999 247 47 610 3 523 215 2 542 384 2 455 669	20 12 615 386 334 19 953 (D) 1 862 198 1 818 006	7 9 871 387 758 15 009 889 158 (D) (D)
Value added†† Cost of materials, components, supplies, and fuels Cost of construction work subcontracted to others Rental cost for machinery, equipment, and buildings Capital expenditures, other than land End-of-year gross book value of depreciable assets	1 180 462 439 244	2 125 844 1 496 884 185 749 41 715 74 231 493 742	2 412 632 1 612 191 99 310 60 452 82 208 502 219	3 184 737 2 035 192 142 206 72 830 99 575 630 017	4 529 701 2 899 298 236 612 92 233 106 180 717 368	2 935 704 1 935 376 165 520 52 617 58 234 422 154	3 608 474 2 037 303 220 156 64 340 43 120 330 165	1 728 709 1 260 082 86 715 30 754 18 501 172 781	644 269 (D) 44 192 15 098 13 562 47 840	648 406 (D) (D) 9 203 (D) 20 670
1982										
All employees**  Total construction receipts¹  Value added††	434 764 25 948 527 15 122 619	46 771 2 242 850 1 255 776	52 462 2 460 674 1 423 146	66 214 3 520 472 2 038 528	79 453 4 682 394 2 782 422	49 280 3 360 482 2 078 111	51 889 3 487 329 2 115 109	28 174 2 264 339 1 286 127	23 217 1 975 617 2 143 397	37 303 1 954 368 (D)
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)										
All employees** Net value of construction work† Capital expenditures, other than land	(W) (W) 1	1 2 5	2 2 5	1 1 4	1 1 2	(W) (W) 1	(W) (W) 1	(W) (W) (W)	(W) (W) (W)	(W) (D) (D)

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

### Table 6. Selected Statistics by Size Class of the Dollar Value of Business Done for Establishments With Payroll: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

					Establishm	ents with doll	ar value of bu	usiness done			
Selected statistics	Total	Less than \$25,000	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	to	\$2,500,000 to \$4,999,999	\$5,000,000 to \$9,999,999	\$10,000,000 or more
1987											
Number of establishments  All employees**  Payroll, all employees  Construction worker hours (thousands)  Dollar value of business done  Value of construction work <sup>1</sup> Net value of construction work <sup>†</sup>	49 436 509 309 12 663 516 732 100 36 275 257 35 838 226 34 657 765	1 909 1 760 10 331 1 512 25 114 24 723 24 575	3 325 4 595 35 155 4 855 127 633 126 206 123 974	7 480 13 615 149 041 16 103 548 147 543 857 530 315	15 170 48 865 726 779 61 480 2 448 290 2 423 291 2 376 861	8 625 55 374 1 009 200 73 045 3 006 754 2 961 243 2 900 220	6 097 69 061 1 453 829 94 948 4 256 496 4 196 781 4 095 886	4 139 90 135 2 213 712 130 806 6 340 928 6 248 725 6 081 058	1 541 68 343 1 826 385 100 071 5 307 079 5 227 696 4 973 637	721 60 692 1 826 061 95 154 4 848 636 4 780 523 4 589 480	426 96 863 3 413 021 154 121 9 366 176 9 305 177 8 961 756
Value added††Cost of materials, components, supplies, and	21 818 478	13 803	70 747	305 740	1 391 180	1 782 985	2 503 960	3 749 224	3 067 762	2 917 151	6 015 924
fuelsCost of construction work subcontracted to	13 276 327	11 167	54 653	228 866	1 010 681	1 162 746		2 424 039	1 985 257	1 740 442	3 006 831
others Rental cost for machinery, equipment, and	1 180 462	148	2 232	13 541	46 430	61 022	100 895	167 667	254 059	191 043	343 421
buildingsCapital expenditures, other than land	439 244 495 613	165 116	1 087 3 534	7 247 11 444	30 514 50 179	42 610 62 194	59 999 87 825	82 086 95 470	55 858 76 084	53 623 47 187	106 050 61 579
End-of-year gross book value of depreciable assets	3 336 958	4 623	32 896	87 036	337 494	400 242	504 120	640 947	468 825	391 974	468 799
1982											
All employees** Total construction receipts1 Value added††	434 764 25 948 527 15 122 619	4 852 43 791 23 727	4 948 108 785 59 812	14 679 504 183 278 572	43 695 1 771 331 998 752	45 601 2 127 257 1 222 977	51 652 2 644 990 1 522 271	68 132 4 079 292 2 417 833	45 837 3 010 406 1 826 624	41 447 2 826 428 1 755 108	113 919 8 832 062 5 016 940
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)											
All employees** Net value of construction work† Capital expenditures, other than land	(W) (W) 1	6 6 38	5 4 13	3 3 10	2 2 5	2 2 6	2 2 4	1 1 3	(W) 1 3	(W) (W) (W)	(W) (W) (W)

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

In earlier censuses construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

### Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1987 and 1982

[THOUSAND CONTROL POLICE THE PROPERTY OF ADDITIONAL TO THE ANALYS OF ADDITIONAL TO THE ADDITIONAL TH		Value of const							
Type of construction	Total	New construction	Additions, alterations, or reconstruction <sup>2</sup>	Maintenance and repair		lative star f estimate for colu	(percent		
	А	В	С	D	А	В	С	D	
1987									
Value of construction work <sup>1</sup>	35 8 <b>3</b> 8 226	19 124 238	9 826 818	<b>5</b> 229 6 <b>57</b>	(W)	(W)	1	1	
Building constructionSingle-family houses	29 <b>05</b> 6 <b>0</b> 63 4 164 610	16 5 <b>7</b> 0 <b>3</b> 8 <b>5</b> 2 773 371	8 <b>141</b> 801 757 296	4 343 881 633 943	(W)	(W)	1 2	1 2	
Single-family houses, detached Single-family houses, attached Apartment buildings with two or more apartments	3 460 344 704 266 1 284 568	2 234 563 538 807 901 414	673 924 83 371 202 031	551 856 82 087	1 2	·1 2 2	5 3	3 4 3	
Other residential buildings, including hotels and motels  Hotels and motels	1 091 273 772 646	701 239 539 245	244 016 160 204	181 122 146 017 73 197	1 1	1	3 4	3 4	
Other residential buildings, excluding hotels and motelsOffice buildingsOther commercial buildings such as stores, restaurants, and automobile service	318 626 7 127 066	161 994 3 830 394	83 812 2 407 202	72 820 889 469	3 1	3	1	5 1	
stationsIndustrial buildings and warehouses	4 604 330 6 548 566	2 638 884 3 436 698	1 154 483 1 941 105	810 964 1 170 762	1	1	1	1	
Industrial buildings	5 580 302 968 264 354 962	2 815 151 621 547 189 609	1 733 725 207 380 100 281	1 031 425 139 337 65 071	1 1 2	1 2 3	1 2 3	1 2 6	
Educational buildings Hospitals and institutional buildings	1 246 465 1 822 402	685 961 970 412	423 927 685 928	136 576 166 061	1 1	2	2	6 3 3	
Farm buildingsAmusement, social, and recreational buildingsOther nonresidential buildings	127 201 257 214 427 401	39 593 167 033 235 771	45 911 54 835 124 781	41 696 35 344 66 848	6 3 3	7 4 2	12 3 5	5 4 7	
Nonbuilding construction	5 124 6 <b>53</b> 782 517	2 <b>553</b> 8 <b>5</b> 6 470 547	1 68 <b>5 01</b> 8 188 150	885 <b>77</b> 9 123 819	1 2 3	2 2	1 2	2 2	
Power and communication transmission lines, towers, and related facilities	2 257 271 335 253	1 100 055 150 339	758 745 164 747	398 471 20 166	3 1 1	4 2	1 1	4 1	
Subways Railroads Heavy industrial facilities	318 875 16 377 923 412	(D) (D) 385 203	159 802 4 944 363 727	(D) (D) 174 481	(W)	(D) (D) 1	(W)	(D) (D) 3	
Blast furnaces, petroleum refineries, and chemical complexes Power plants Power plants, nuclear	379 422   543 989   143 961	131 027 254 175 53 095	166 953 196 774 66 954	81 441 93 039 23 910	2 1 (W)	3 1 (W)	1 1 (W)	5 2 (W)	
Power plants, except nuclear	400 028 173 221	201 080 120 576	129 819 35 443	69 128 17 200	1 4	1 5	5	3 10	
Sewage treatment plants Water treatment plants Other nonbuilding construction	126 912 46 308 652 979	86 381 34 195 327 136	27 795 7 648 174 206	12 735 4 464 151 642	5 8 5	5 7 5	5 10 9	9 22 7	
Construction work, n.s.k.	1 657 513	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)	
1982									
Value of construction work <sup>1</sup>	25 948 527	19 511 1 <b>0</b> 8	(NA)	6 437 418	(W)	(W)	(NA)	(W)	
Building constructionSingle-family houses	2 <b>0 03</b> 6 <b>44</b> 6 1 969 004	14 888 918 1 300 378	(NA) (NA)	<b>5 147 53</b> 0 668 626	(W) 1	(W) 2	(NA) (NA)	( <b>W</b> )	
Single-family houses, detachedSingle-family houses, attached	1 583 161 385 842 981 790	1 013 421 286 957 774 460	(NA) (NA) (NA)	569 740 98 885 207 329	1 2	2 3 1	(NA) (NA) (NA)	2 3 3	
Apartment buildings with two or more apartments Other residential buildings, including hotels and motels Hotels and motels	535 583 (NA)	414 842 (NA)	(NA) (NA) (NA)	120 740 (NA)	(NA)	(NA)	(NA) (NA)	(NA) (NA)	
Other residential buildings, excluding hotels and motelsOffice buildingsOther restaurants and automobile capting	(NA) 6 860 103	(NA) 5 428 898	(NA) (NA)	(NA) 1 431 205	(NA) (W)	(NA) (W)	(NA) (NA)	(NA) 1	
Other commercial buildings such as stores, restaurants, and automobile service stationsIndustrial buildings and warehouses	1 815 706 5 076 330	1 238 341 3 591 037	(NA) (NA)	577 365 1 485 293	1 (W)	(W)	(NA) (NA)	1	
Industrial buildings Warehouses Religious buildings	4 489 743 586 586 213 367	3 153 415 437 621 141 659	(NA) (NA) (NA)	1 336 327 148 965 71 708	1 1 3	1 1 3	(NA) (NA) (NA)	1 2 2 2	
Educational buildingsHospitals and institutional buildings	783 475 1 300 702	594 745 1 038 299	(NA) (NA)	188 730 262 402	1	1	(NA) (NA)	1	
Amusement, social, and recreational buildingsOther nonresidential buildings	209 420 290 962	169 671 196 581	(NA) (NA)	39 748 94 379	2	2	(NA) (NA)	2 5	
Nonbuilding constructionHighways, streets, and related facilities	4 262 9 <b>3</b> 2 547 636	3 361 885 425 980	(NA) (NA)	9 <b>01 047</b> 121 655	(W)	(W)	(NA) (NA)	1 2	
Power and communication transmission lines, towers, and related facilities Heavy industrial facilities Blast furnaces, petroleum refineries, and chemical complexes	1 325 773 1 386 349 412 419	1 106 352 1 100 467 284 320	(NA) (NA) (NA)	219 420 285 881 128 098	(W) (W)	1 (W) (W)	(NA) (NA) (NA)	1	
Power plantsPower plants	973 930 538 586	816 147 469 820	(NA) (NA)	157 783 68 766 89 017	(W)	(W) (W)	(NA) (NA) (NA)	(W)	
Power plants, except nuclear Sewage treatment and water treatment plants Sewage treatment plants	435 344 355 375 238 071	346 326 309 952 212 653	(NA) (NA) (NA)	45 423 25 418	1	1	(NA) (NA)	4	
Water treatment plantsOther nonbuilding construction	117 304 647 787	97 299 419 120	(NA) (NA)	20 004 228 667	2 4	2	(NA) (NA)	7	
Construction work, n.s.k.	1 649 149	1 260 305	(NA)	388 841	2	2	(NA)	2	

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year. ²In 1982, data for additions, alterations, or reconstruction were not collected separately. These data are included with "New construction."

### Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

appendixes]	1							II. TOT EXPIANA			
		:			onstruction ork	Net		Cost of	stan	Relative dard e	rror
Item	Number of establishments	All employees**	Payroll, all employees	For all types	For specialized type	value of construction work†	Value added††	construction work sub- contracted to others	(pe	estima rcent) olumn-	for
	А	В	С	D	E	F	G	Н	В	D	Н
All establishments	49 436	509 309	12 66 <b>3 5</b> 16	35 838 226	17 983 952	34 657 765	21 818 478	1 180 462	(W)	(W)	3
Establishments not specializing by typeEstablishments specializing 51 percent or more	17 328 32 108	200 601 308 707	4 903 452 7 760 064	14 074 329 21 763 897	(NA) 17 983 952	13 673 466 20 984 298	8 273 974 13 544 504	400 862 779 600	1	1	5 1
SINGLE-FAMILY HOUSES, DETACHED											
All establishments specializing in type	11 146	49 427	827 075	2 628 627	2 112 287	2 588 159	1 524 844	40 467	2	2	10
Establishments with —  100 percent specialization	2 691 2 025 1 957 2 475 1 443 553	9 382 8 575 9 682 11 481 7 633 2 672	142 625 144 835 161 448 190 349 137 793 50 023	472 992 466 556 510 947 612 492 416 720 148 917	472 992 434 327 420 424 445 634 256 679 82 229	464 918 459 713 503 949 600 314 411 930 147 333	275 446 265 281 294 361 354 656 244 758 90 339	8 073 6 842 6 997 12 178 4 790 1 584	7 5 4 5 5 5	7 5 4 5 5 5	19 15 28 19 15 14
SINGLE-FAMILY HOUSES, ATTACHED											
All establishments specializing in type	<b>5</b> 33	3 659	67 923	214 663	161 149	210 681	124 983	3 982	7	6	10
Establishments with — 100 percent specialization	88 73 106 135 84 44	389 416 606 1 122 774 350	7 035 8 462 10 126 18 795 17 406 6 097	17 621 26 141 36 403 67 095 51 049 16 352	17 621 23 828 29 448 49 006 32 127 9 117	17 558 25 819 35 293 65 391 50 451 16 166	11 112 16 532 17 919 40 660 29 948 8 809	*63 321 1 110 1 703 598 185	26 14 14 17 19 24	25 12 11 18 17 25	58 15 5 32 14 12
APARTMENT BUILDINGS WITH TWO OR MORE APARTMENTS						:					
All establishments specializing in type	867	8 849	183 949	568 576	436 120	551 570	324 253	17 006	4	3	8
Establishments with —  100 percent specialization	220 177	1 548 1 072 955 2 461 1 922 889	34 880 18 676 18 489 53 025 41 009 17 868	106 495 60 925 57 800 158 480 129 721 55 154	106 495 56 927 47 098 115 448 80 202 29 947	103 417 58 989 51 980 155 806 127 034 54 341	62 370 31 842 32 114 92 553 80 783 24 588	3 077 1 936 5 819 2 673 2 686 812	11 9 7 13 15 9	9 6 5 10 14 9	30 8 18 18 29 15
HOTELS AND MOTELS											
All establishments specializing in type	191	1 871	43 819	140 716	109 650	137 376	77 378	3 339	11	8	18
Establishments with —  100 percent specialization _ 90 to 99 percent specialization _ 80 to 89 percent specialization _ 70 to 79 percent specialization _ 60 to 69 percent specialization _ 51 to 59 percent specialization _	*26 2 52 33 47 *30	159 (D) 617 476 417 (D)	5 742 (D) 16 127 9 279 8 170 (D)	19 970 (D) 55 923 32 614 18 265 (D)	19 970 (D) 45 038 24 110 11 153 (D)	19 242 (D) 54 815 31 231 (D) (D)	12 070 (D) 29 929 17 941 10 923 (D)	728 (D) 1 107 1 383 (D) (D)	18 (D) 32 9 (W) (D)	20 (D) 23 10 (W) (D)	(W) (D) 39 21 (D) (D)
OTHER RESIDENTIAL BUILDINGS, EXCLUDING HOTELS AND MOTELS								•			
All establishments specializing in type  Establishments with —	174	1 276	27 726	80 778	64 984	77 724	51 020	3 054	10	8	18
100 percent specialization 90 to 99 percent specialization 80 to 89 percent specialization 70 to 79 percent specialization 60 to 69 percent specialization 51 to 59 percent specialization	9 54 *24 *32	297 (D) 369 223 *276 (D)	5 285 (D) 9 283 3 768 6 881 (D)	18 002 (D) 29 367 9 648 *16 257 (D)	18 002 (D) 25 118 6 887 10 202 (D)	17 186 (D) 28 670 9 622 14 787 (D)	10 634 (D) 19 107 5 548 11 045 (D)	815 (D) 696 26 (S) (D)	(W) (D) 25 15 62 (D)	(W) (D) 23 10 63 (D)	(W) (D) 31 28 (S) (D)
OFFICE BUILDINGS						7 (g/5 +**)					
All establishments specializing in type	2 938	59 716	1 983 589	5 072 584	3 936 569	4 942 675	3 273 034	129 910	1	1	2
Establishments with —  100 percent specialization	560 416 587 554	9 831 6 994 9 520 18 798 10 198 4 374	302 908 250 291 311 089 669 816 316 193 133 289	820 715 590 365 824 958 1 636 797 837 345 362 403	820 715 556 207 677 467 1 165 614 517 311 199 254	800 545 579 493 803 082 1 600 903 809 327 349 321	529 680 377 379 509 996 1 109 704 524 599 221 673	20 170 10 871 21 875 35 893 28 017 13 082	4 2 1 2 3 3	3 2 1 1 3 3	4 4 2 4 5 5
OTHER COMMERCIAL BUILDINGS SUCH AS STORES, RESTAURANTS, AND AUTOMOBILE SERVICE STATIONS											
All establishments specializing in type	3 627	33 946	785 410	2 340 258	1 839 678	2 277 783	1 378 181	62 474	2	2	5
Establishments with —  100 percent specialization 90 to 99 percent specialization 80 to 89 percent specialization 70 to 79 percent specialization 60 to 69 percent specialization 51 to 59 percent specialization	371 476 631 678	7 852 3 595 5 292 5 988 7 325 3 890	184 683 84 095 117 941 133 670 177 946 87 073	558 547 259 589 346 307 390 414 518 637 266 762	558 547 242 534 284 810 284 611 322 727 146 448	541 836 250 987 340 363 375 347 505 877 263 372	341 368 146 199 206 353 225 661 302 036 156 562	16 710 8 602 5 943 15 067 12 759 3 390	6 5 5 5 6 4	5 4 4 4 6 4	9 3 6 7 15 17

### Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987—Con.

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see

					onstruction ork			Cost of		Relative	
Item	Number of establishments	All employees**	Payroll, all employees	For all types	For specialized type	Net value of construction work†	Value added††	construction work sub- contracted to others	of (pe	estima ercent) olumn	ate for
	А	В	С	D	Е	F	G	н	В	D	Н
INDUSTRIAL BUILDINGS											
All establishments specializing in type  Establishments with —	3 170	48 787	1 378 450	3 589 833	2 868 735	3 451 567	2 262 829	1 <b>3</b> 8 <b>2</b> 65	1	1	2
100 percent specialization	887 319 552 656 541 212	11 512 6 725 7 192 9 925 7 793 5 638	336 839 189 164 193 098 263 143 214 072 182 131	926 224 456 447 535 136 652 210 589 973 429 841	926 224 422 346 441 639 476 699 366 783 235 043	883 603 441 437 513 306 632 579 571 264 409 375	593 305 290 638 311 833 421 220 370 784 275 046	42 620 15 009 21 830 19 631 18 708 20 466	3 3 2 3 4 3	3 3 2 3 3 2	26 5 2 3
WAREHOUSES											
All establishments specializing in type  Establishments with —	169	1 725	41 174	122 465	90 436	120 247	67 918	2 218	9	9	15
100 percent specialization 90 to 99 percent specialization 80 to 89 percent specialization 70 to 79 percent specialization 60 to 69 percent specialization 51 to 59 percent specialization	42 *22 *21 47 *19 15	337 170 178 299 *325 414	7 051 *3 163 6 196 7 864 6 857 10 040	20 677 11 271 17 433 21 909 *21 177 29 997	20 677 *10 450 14 454 15 634 12 763 16 455	20 282 11 119 16 777 21 724 20 871 29 472	11 997 5 671 9 339 14 219 11 071 15 618	395 152 655 185 (S) 524	12 19 20 23 48 27	11 13 22 22 22 42 29	9 18 38 40 (S) 26
EDUCATIONAL BUILDINGS											
All establishments specializing in type	591	4 814	106 425	334 919	<b>245</b> 876	320 975	174 728	13 944	6	5	11
100 percent specialization	56 96 164 117 103 52	491 506 1 019 927 1 249 618	8 074 11 333 24 203 18 316 30 876 13 621	30 706 32 431 66 813 56 328 95 427 53 212	30 706 29 746 55 429 41 435 59 060 29 499	28 617 31 256 62 839 54 216 93 566 50 478	17 815 18 728 31 190 30 642 47 730 28 620	2 088 1 175 3 974 2 111 1 860 2 734	16 8 16 12 17 26	15 6 13 12 16 21	26 7 23 27 15 35
HOSPITALS AND INSTITUTIONAL BUILDINGS											
All establishments specializing in type	482	6 488	179 247	584 102	419 683	549 578	<b>349 5</b> 58	34 524	3	3	8
100 percent specialization 90 to 99 percent specialization 80 to 89 percent specialization 70 to 79 percent specialization 60 to 69 percent specialization 51 to 59 percent specialization	85 65 82 109 101 36	630 514 1 025 1 369 1 766 1 181	17 489 11 706 26 045 36 585 53 272 34 149	50 354 43 536 98 661 109 368 150 997 131 184	50 354 40 618 81 700 80 591 94 256 72 161	49 147 36 029 87 623 102 675 145 059 129 042	30 385 20 058 59 069 63 369 86 942 89 732	1 206 7 506 11 038 6 692 5 938 *2 142	5 5 7 7 17 15	3 4 7 7 16 17	4 8 17 17 21 53
FARM BUILDINGS											
All establishments specializing in type	205	477	5 455	33 061	23 199	29 708	20 101	* <b>3</b> 353	20	26	45
Establishments with —  100 percent specialization	9 43 8 *30 93 *22	*16 31 16 (S) *203 *18	106 *340 (S) 2 959 1 764 *166	*819 *2 175 648 (S) *14 529 *2 192	*819 *1 957 (S) *9 877 *8 765 *1 261	*780 *2 175 (S) 9 578 *14 475 *2 052	301 *1 288 (S) *7 180 *9 886 *1 150	*39 - 3 120 54 140	51 27 37 (S) 46 58	47 46 40 (S) 63 55	54 - (W) (W) (Y)
HIGHWAYS, STREETS, AND RELATED FACILITIES											
All establishments specializing in type	302	5 430	150 984	535 385	481 181	504 932	298 173	30 453	4	3	4
100 percent specialization 90 to 99 percent specialization 80 to 89 percent specialization 70 to 79 percent specialization 60 to 69 percent specialization 51 to 59 percent specialization	195 26 37 14 20 8	2 961 547 730 317 603 270	80 495 14 461 21 169 8 803 17 882 8 171	307 851 49 836 68 167 28 921 55 423 25 186	307 851 45 832 56 515 20 948 36 015 14 018	286 085 47 625 67 121 28 321 52 071 23 706	167 348 30 926 39 313 15 373 30 840 14 371	21 765 2 210 1 045 600 3 351 1 480	11 10 13 8 6 6	11 9 11 6 9 4	11 5 (W) 12 13 5
POWER AND COMMUNICATION TRANSMISSION LINES, TOWERS, AND RELATED FACILITIES											
All establishments specializing in type	948	27 710	771 275	2 137 959	2 071 361	1 960 519	1 552 770	177 440	1	3	19
Establishments with —  100 percent specialization 90 to 99 percent specialization 80 to 89 percent specialization 70 to 79 percent specialization 60 to 69 percent specialization 51 to 59 percent specialization	817 29 5 53 33 9	24 214 1 008 153 1 151 902 279	669 353 26 416 5 541 33 963 27 022 8 977	1 865 439 76 826 12 795 98 683 59 335 24 879	1 865 439 72 599 10 323 72 090 37 058 13 849	1 708 135 68 661 (D) 90 111 57 673 (D)	1 374 506 41 320 8 386 67 748 45 738 15 069	157 304 8 165 (D) 8 572 1 662 (D)	11 8 3 (W) 4 2	11 8 3 (W) 2 3	14 5 (D) (W) (W)
BLAST FURNACES, PETROLEUM REFINERIES, AND CHEMICAL COMPLEXES											
All establishments specializing in type	129	4 119	107 156	241 365	216 527	235 272	172 062	6 <b>0</b> 93	3	3	8
Establishments with —  100 percent specialization 90 to 99 percent specialization 80 to 89 percent specialization 70 to 79 percent specialization 60 to 69 percent specialization 51 to 59 percent specialization	66 *21 *13 15 11	2 698 188 (D) *731 358 (D)	67 026 4 504 (D) 20 302 10 981 (D)	147 411 11 474 (D) 46 208 25 790 (D)	147 411 10 819 (D) 33 786 17 058 (D)	144 317 11 390 (D) 45 395 24 055 (D)	99 247 9 122 (D) 36 959 19 701 (D)	3 093 84 (D) 813 1 735 (D)	(W) 14 (D) 42 19 (D)	(W) 11 (D) 32 20 (D)	(W) 5 (D) 3 10 (D)

### Table 9. Quarterly Construction Worker Hours and Employment for Establishments With

		Average		January t	o March	April to	June
Location of establishment	Number of establishments	number of construction workers	Construction worker hours (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)
	А	В	С	D	E	F	G
United States	49 436	<b>405</b> 961	732 100	395 113	173 163	396 921	179 844
AlabamaAlaskaArizonaArkansasCalifornia	600	5 572	10 259	5 622	2 524	5 550	2 577
	147	680	1 184	644	268	737	320
	877	6 496	11 328	6 193	2 529	6 367	2 822
	415	2 106	3 730	2 060	870	2 114	939
	5 753	44 987	76 374	43 241	18 010	44 975	19 180
Colorado Connecticut Delaware District of Columbia Florida	889	6 429	10 891	6 213	2 559	6 171	2 665
	1 017	6 768	12 299	6 383	2 910	6 461	2 998
	155	1 281	2 116	1 244	506	1 262	529
	38	1 369	2 650	1 345	627	1 375	676
	3 073	29 341	53 662	28 999	12 927	28 704	13 030
Georgia Hawaii Idaho Illinois Indiana	1 218	13 821	25 789	13 403	6 074	13 370	6 327
	221	1 538	2 917	1 667	776	1 495	694
	218	846	1 225	843	297	799	302
	1 881	18 903	35 392	18 119	8 277	18 238	8 712
	888	7 658	14 335	7 437	3 358	7 398	3 536
lowa	481	2 607	4 695	2 552	1 103	2 477	1 157
Kansas	425	3 495	6 568	3 192	1 445	3 370	1 572
Kentucky	601	4 460	8 169	4 080	1 802	4 219	1 886
Louisiana	766	6 358	11 435	6 197	2 777	5 981	2 665
Maine	355	1 627	3 131	1 472	659	1 632	775
Maryland	963	11 859	21 012	11 570	4 948	11 537	5 063
	1 807	13 798	24 920	13 464	6 028	13 704	6 123
	1 568	11 800	21 633	11 448	5 103	11 678	5 456
	945	6 823	12 243	6 422	2 825	6 607	2 974
	330	1 804	2 921	1 813	727	1 820	734
Missouri	808	7 076	12 162	7 038	2 975	6 870	3 011
Montana	172	560	892	646	223	539	233
Nebraska	404	2 032	3 808	1 903	858	1 894	890
Nevada	247	2 211	4 323	2 183	983	2 173	1 043
New Hampshire	418	2 021	3 978	1 900	904	2 023	976
New Jersey	2 246	16 725	30 336	16 449	7 287	16 394	7 480
	412	2 117	3 662	2 122	878	2 055	932
	3 599	36 913	68 001	36 141	16 087	35 873	16 769
	1 619	13 408	24 958	12 630	5 716	13 256	6 230
	218	741	1 496	620	281	665	333
Ohio Oklahoma Oregon Pennsylvania Rhode Island	1 613	12 989	23 504	12 190	5 363	12 051	5 494
	593	3 070	5 396	3 064	1 366	3 123	1 367
	514	3 214	5 065	2 898	1 155	3 480	1 229
	2 035	16 354	30 688	15 892	7 290	16 208	7 607
	287	1 469	2 632	1 425	616	1 390	655
South Carolina South Dakota Tennessee Texas Utah	645	7 978	15 169	8 864	4 116	7 532	3 540
	170	579	841	546	185	558	202
	727	9 215	16 560	9 178	3 869	8 907	4 015
	3 153	25 648	45 758	25 296	11 025	25 160	11 277
	323	2 046	3 677	2 047	887	1 946	858
Vermont	202	809	1 521	779	364	812	380
	1 272	12 052	22 257	11 899	5 171	12 019	5 562
	912	6 596	10 976	6 507	2 586	6 552	2 762
	201	1 419	2 411	1 287	533	1 277	550
	853	5 527	9 759	5 273	2 181	5 362	2 378
	138	737	1 371	688	308	737	333

<sup>&</sup>lt;sup>1</sup>Construction workers during pay periods including 12th of March, May, August, and November.

### Payroll by State: 1987

											December	October to 0	ptember	July to Sep
Location of establish-			lumn —	ent) for co	nate (perce	ror of estin	tandard er	Relative			Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)	Construction workers1
ment	К	J	1	н	G	F	Е	D	С	В	К	J	ı	н
U.S	1	(W)	1	(W)	1	(W)	1	(W)	(W)	(W)	187 <b>0</b> 83	409 699	192 009	422 196
AL	6	5	6	4	6	4	6	4	4	3	2 509	5 409	2 647	5 709
AK	10	6	11	9	11	8	14	10	6	5	268	580	327	757
AZ	5	4	5	4	5	4	5	4	3	3	2 969	6 504	3 005	6 924
AR	11	8	11	8	11	8	11	8	6	5	925	2 024	995	2 227
CA	2	1	2	1	2	2	2	1	1	1	19 105	45 228	20 077	46 511
CO	4	3	4	3	4	3	4	3	2	2	2 835	6 719	2 829	6 613
CT	5	5	5	4	5	4	5	3	3	2	3 175	7 255	3 215	6 971
DE	10	7	10	7	12	8	12	8	7	4	537	1 265	543	1 354
DC	5	4	4	3	5	4	4	3	4	2	667	1 363	679	1 395
FL	3	2	3	2	3	2	2	2	2	1	13 931	29 710	13 773	29 957
GA	3	2	3	2	3	2	3	2	2	1	6 653	14 065	6 734	14 446
HI	10	7	9	6	9	6	14	12	6	4	698	1 477	747	1 512
ID	19	11	18	16	18	11	18	12	10	6	288	745	336	998
IL	2	2	2	2	2	2	2	2	1	1	9 179	19 666	9 223	19 586
IN	5	3	5	4	5	3	4	3	3	2	3 623	7 795	3 817	8 002
IA KS KY LA ME	8 7 6 5	6 5 5 4 8	8 7 6 5	6 5 5 4 8	8 7 6 5 12	6 5 5 4 8	9 7 6 5 12	6 5 5 3 9	4 4 5 3 7	4 3 3 2 5	1 236 1 730 2 233 3 050 872	2 683 3 587 4 626 6 668 1 733	1 197 1 820 2 246 2 940 823	2 719 3 833 4 915 6 585 1 673
MD MA MI MN MS	4 3 3 4 13	2 2 3 3 10	4 3 3 4 13	2 2 3 3 9	3 3 3 4 13	2 2 2 2 3 9	3 3 3 4 13	2 2 3 3 9	2 2 2 2 7	2 1 2 2 6	5 580 6 219 5 307 3 126 724	12 255 13 342 11 739 6 919 1 709	5 419 6 548 5 766 3 317 734	12 074 14 684 12 337 7 345 1 875
MO	4	3	4	3	4	3	4	3	3	2	2 953	6 955	3 222	7 444
MT	21	14	20	13	18	12	19	11	9	6	207	497	227	559
NE	8	5	8	6	9	6	9	6	5	3	1 039	2 224	1 020	2 108
NV	12	9	10	8	11	10	11	9	9	8	1 159	2 259	1 137	2 227
NH	9	7	9	7	9	7	9	7	5	4	1 091	2 072	1 006	2 090
NJ	3	2	3	2	3	2	3	2	2	1	7 719	16 961	7 849	17 097
NM	9	7	9	7	9	6	9	7	5	4	915	2 123	935	2 169
NY	2	1	2	1	2	1	2	2	1	1	17 209	37 141	17 934	38 499
NC	3	3	4	3	3	3	3	3	2	2	6 325	13 382	6 685	14 366
ND	17	11	16	11	18	11	20	12	12	8	425	808	456	873
OH	3	2	3	2	3	2	3	3	2	1	6 399	13 936	6 246	13 781
OK	9	7	9	7	8	7	9	6	5	4	1 290	2 878	1 372	3 213
OR	7	5	7	6	8	15	9	6	4	5	1 378	3 279	1 302	3 199
PA	3	2	3	2	3	2	3	2	2	1	7 794	16 512	7 996	16 802
RI	13	9	13	9	13	9	13	9	5	5	664	1 485	695	1 575
SC	4	3	4	3	4	3	3	3	2	2	3 705	7 479	3 806	8 038
SD	26	17	27	18	27	17	27	17	15	12	233	595	220	617
TN	4	3	3	3	3	3	3	3	2	2	4 318	9 197	4 356	9 579
TX	3	2	3	2	3	2	2	2	2	1	11 410	25 534	12 044	26 657
UT	12	9	11	8	10	7	11	7	6	5	979	2 061	951	2 137
VT VA WA WV WI WY	17 3 5 10 6 21	12 3 4 8 4 15	16 4 5 13 6	12 3 4 9 4	17 3 5 14 6	12 2 3 9 4	17 3 5 14 5	12 2 3 9 4	9 2 3 8 3	7 2 2 6 2 7	386 5 586 2 829 669 2 557 379	811 11 800 6 594 1 611 5 645 772	390 5 936 2 798 658 2 641 349	835 12 492 6 732 1 504 5 829 750

### Table 10. Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1987 and 1982

			1987							
		Construction establishmen this S	work done by	Construction establishment in this	s not located	1982	Percent change 1987	error	ve stand of estimation	nate
Location of construction work	Value of construction work done in this State <sup>1</sup>	Number	Value of construction work	Number	Value of construction work	construction receipts for work done in this State <sup>1</sup>	(col A) to 1982 (col F)		olumn'—	
	A	В	С	D	Е	F	G	А	С	Ε
United States	35 <b>8</b> 38 <b>22</b> 6	49 169	32 913 524	9 643	2 924 702	25 948 527	38.1	(W)	(W)	1
AlabamaAlaskaArizonaArkansasCalifornia	412 516	596	338 709	277	73 807	238 734	72.8	1	3	1
	119 830	146	100 821	22	19 009	278 031	-56.9	2	5	8
	555 102	868	494 234	140	60 867	356 692	55.6	1	2	3
	160 253	406	128 633	139	31 620	108 065	48.3	3	5	9
	4 943 977	5 748	4 802 830	214	141 147	3 323 356	48.8	1	1	3
Colorado	491 077	885	454 960	80	36 117	611 151	-19.6	1	2	2
	677 352	1 015	623 890	141	53 461	413 838	63.7	2	2	4
	149 138	155	101 796	177	47 341	93 558	59.4	2	4	5
	206 359	36	52 930	307	153 428	182 000	13.4	2	4	3
	2 020 666	3 031	1 878 978	313	141 687	1 351 386	49.5	1	1	2
Georgia Hawaii Idaho Illinois	1 031 169	1 205	882 265	525	148 903	567 871	81.6	1	1	2
	214 122	221	198 578	32	15 543	121 419	76.3	2	3	6
	65 424	215	55 572	63	9 851	93 166	-29.8	3	7	7
	1 979 707	1 878	1 898 112	278	81 595	1 333 043	48.5	1	1	3
	631 631	887	603 137	277	28 493	469 449	34.5	1	2	7
lowa	196 638	478	178 569	118	18 068	216 050	-9.0	3	4	6
Kansas	311 137	423	242 345	198	68 791	231 181	34.6	2	3	2
Kentucky	324 919	594	271 412	282	53 506	235 528	38.0	1	3	3
Louisiana	479 179	765	447 710	134	31 468	778 840	-38.5	2	2	5
Maine	137 439	355	123 077	122	14 362	78 233	75.7	3	5	7
Maryland	838 040	959	717 728	254	120 311	430 296	94.8	2	3	3
	1 162 804	1 805	1 110 111	214	52 692	584 898	98.8	1	1	4
	1 189 586	1 550	1 142 260	188	47 326	700 892	69.7	1	1	3
	697 994	945	639 485	93	58 508	468 616	48.9	2	2	3
	160 156	327	122 004	156	38 152	164 878	-2.9	2	5	3
Missouri	710 370	787	632 698	239	77 671	431 904	64.5	2	2	4
	46 841	171	41 928	39	4 913	74 310	-37.0	10	6	21
	178 645	402	150 344	103	28 300	140 003	27.6	4	6	18
	248 587	245	208 012	111	40 574	174 616	42.4	2	5	3
	185 816	418	148 046	228	37 770	74 181	150.5	2	4	6
New Jersey New Mexico New York North Carolina North Dakota	1 509 798	2 226	1 397 174	469	112 623	922 825	63.6	1	1	5
	195 795	412	178 175	65	17 620	191 177	2.4	2	3	8
	3 838 810	3 588	3 736 058	314	102 751	2 212 374	73.5	1	1	4
	848 401	1 616	752 758	275	95 643	464 057	82.8	1	2	3
	61 365	218	49 250	50	12 114	109 597	-44.0	5	10	5
Ohio Oklahoma Oregon Pennsylvania Rhode Island	1 181 150	1 603	1 105 619	217	75 531	828 711	42.5	1	1	5
	256 537	593	215 764	192	40 773	407 361	-37.0	2	4	6
	294 254	514	267 833	112	26 421	264 107	11.4	3	3	6
	1 451 246	2 030	1 369 001	368	82 244	1 048 079	38.5	1	1	5
	125 658	287	113 315	88	12 343	66 285	89.6	4	3	20
South Carolina South Dakota Tennessee Texas Utah	437 970	636	350 209	259	87 760	291 249	50.4	1	3	5
	51 614	170	38 659	104	12 955	45 414	13.7	5	10	7
	550 887	721	507 820	154	43 066	370 092	48.9	1	2	11
	1 933 371	3 147	1 843 316	292	90 054	2 378 878	-18.7	1	1	6
	171 571	323	150 163	69	21 408	155 887	10.1	4	6	6
Vermont	80 999	202	57 578	57	23 421	49 749	62.8	3	9	6
	1 000 649	1 249	796 658	483	203 991	517 821	93.2	1	2	3
	644 722	911	593 116	172	51 606	673 825	-4.3	2	2	3
	127 264	192	86 288	185	40 975	139 619	-8.8	2	6	4
	480 774	853	462 853	144	17 920	358 699	34.0	1	2	3
	68 893	138	50 714	88	18 178	126 512	-45.5	3	8	37

<sup>&</sup>lt;sup>1</sup>in earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

### Table 11. Dollar Value of Business Done for Establishments With Payroll by Kind of Business Activity: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes ]

Primary and other kinds of business activities	Dollar value of bu	Relative standard error of estimate (percent)		
	1987	1982	1987	1982
All kinds of business	36 275 257	26 441 085	(W)	(W)
General building contractor Heavy construction Heavy construction contractor Cable laying contractor Air-conditioning contractor Heating contractor Mechanical contractor Heating, ventilation, and air-conditioning contractor Electrical contractor Electric power contractor Electric power contractor Electronic control system contractor Highway lighting and signal contractor Fire and security systems contractor Fire and security systems contractor Gelecommunications contractor Telecommunications contractor Millwright Other construction activities Manufacturing Retail trade Wholesale trade	44 121 76 944 56 880 20 064 18 464 17 449 56 161 42 195 56 058 29 125 842 26 602 277 1 673 570 849 995 1 959 773 3 860 192 11 689 265 514 33 640 159 116 58 992	32 357 113 010 (NA) (NA) (SE 5654 64 834 72 386 63 351 (NA) 25 384 315 (NA) (NA) (NA) (NA) (NA) (11 031 242 524 34 981 93 847 34 844	12 3 2 9 11 10 2 8 5 (W) (W)	8 6 (NA) (NA) 4 3 (W) 4 (NA) (NA) (NA) (NA) (NA) (NA) (NA) 3 3 3 1
Wholesale trade  Other activities  Kind of business activity, n.s.k.	182 839 306 268	5 398 202 553	(W) 6	4 5

In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

### Table 12. Selected Industry Ratios For Establishments With Payroll: 1987 and 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

	1		
Selected statistics	1987	1982	Relative standard error of estimate (percent) for 1987
AVERAGE PER ESTABLISHMENT			
Number of employees**	10.3	11.0	(W)
Number of construction workersNumber of all other employees	8.2 2.1	8.9 (NA)	(wj
Payroll, all employees \$1,000	256.2	230.2	(w)
Payroll, construction workersdo	194.6	185.7	(w)
Payroll, other employeesdo_	61.5	44.5	(W)
Dollar value of business donedo	733.8	668.3	(W)
Value of construction work1do	724.9	655.9	(W)
Cost of materials, components, supplies, and fuels	268.6 23.9	268.5 17.6	(W)
Rental cost for machinery, equipment, and buildings do	8.9	6.0	1
Capital expenditures, other than landdo_ Gross book value of depreciable assetsdo_	10.0	9.1 88.5	1
Gloss book value of depreciable assets	67.5	66.3	•
AVERAGE PER EMPLOYEE			
Payroll, all employeesdo	24.9	20.9	(W)
Dollar value of business done do	71.2	60.8	(w)
Value added†† do	42.8	34.8	(W)
AVERAGE PER CONSTRUCTION WORKER			
Payroll, construction workersdo_	23.7	20.9	(W)
Value of construction work1 do	88.3	73.7	(w)
Construction worker hours	1 803.4	1 663.1	(W)
AVERAGE PER OTHER EMPLOYEE			
Payroll, other employees\$1,000	29.4	(NA)	(W)
,	20.1	(101)	(**)
AVERAGE PER DOLLAR VALUE OF CONSTRUCTION WORK <sup>1</sup>			
Payroll, all employees	.353	.351	(W)
Cost of materials, components, supplies, and fuels	.370	.409	(w)
Cost of construction work subcontracted to others	.033	.027	3
Total Cost to machinery, equipment, and buildings	.012	.009	

<sup>&</sup>lt;sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 13. Selected Industry Ratios for Establishments With Payroll by State: 1987

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

					Average per dollar of value of construction wo			work
Location of establishment	Average number of employees** per estab- lisment	Payroll per employee (\$1,000)	Construction worker hours per construction worker	Value of construction work per construction worker (\$1,000)	Payroll, all employees	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings
United States	10.3	24.9	1 803.4	88.3	.353	.370	.033	.012
AlabamaAlaskaArizonaArkansasCalifornia	11.4 6.2 9.5 6.6 10.0	19.0 37.5 19.5 17.4 27.6	1 841.2 1 741.2 1 743.8 1 771.1 1 697.7	72.1 149.5 80.1 75.0 108.2	.322 .338 .312 .301 .328	.405 .345 .428 .445 .370	.048 *.029 .029 .043 .056	.009 .021 .017 .011
Colorado	9.2 8.4 10.5 42.9 11.8	23.4 27.2 23.1 32.9 18.6	1 694.0 1 817.2 1 651.8 1 935.7 1 828.9	88.2 94.8 84.7 88.8 68.1	.337 .363 .346 .441	.380 .341 .372 .212 .414	.024 .021 .023 .035 .031	.015 .010 .013 .007 .012
Georgia Hawaii Idaho Illinois Indiana	13.7 8.8 5.1 12.6 10.8	22.2 28.6 17.3 32.2 25.1	1 865.9 1 896.6 1 448.0 1 872.3 1 871.9	73.4 129.1 73.1 104.3 83.3	.364 .281 .313 .386 .377	.398 .385 .455 .341 .353	.025 .039 .017 .027 .030	.012 .017 .008 .010
lowa Kansas Kentucky Louisiana Maine	6.8 10.7 9.2 10.3 5.8	20.4 24.2 19.6 21.5 19.9	1 800.9 1 879.3 1 831.6 1 798.5 1 924.4	79.4 88.6 73.9 77.6 80.5	.325 .354 .330 .344 .314	.447 .373 .398 .357 .408	.017 .030 .060 .027 .011	.011 .013 .013 .013 .009
Maryland	15.2 9.4 9.6 9.1 6.9	22.5 25.6 29.5 29.1 18.0	1 771.8 1 806.1 1 833.3 1 794.4 1 619.2	79.5 87.2 104.1 100.8 70.4	.350 .364 .362 .363 .324	.387 .370 .341 .387 .399	.016 .021 .034 .022 .040	.011 .009 .011 .011
Missouri Montana Nebraska Nevada New Hampshire	11.3 4.4 6.5 11.2 6.2	27.3 19.8 22.1 26.5 20.5	1 718.8 1 592.9 1 874.0 1 955.2 1 968.3	98.7 78.9 86.2 110.4 82.2	.358 .339 .334 .300 .322	.358 .387 .387 .350 .435	.025 .025 .046 .066 .009	.011 .011 .009 .022 .010
New Jersey	9.2 6.8 12.7 10.1 4.5	27.4 21.1 31.8 18.2 18.6	1 813.8 1 729.8 1 842.2 1 861.4 2 018.9	90.0 97.8 103.0 65.7 76.0	.377 .286 .381 .337 .323	.353 .398 .311 .436 .446	.028 .082 .022 .044 .022	.012 .011 .010 .014 .014
OhioOklahomaOregonPennsylvaniaRhode Island	10.1 6.8 8.2 10.2 6.6	26.0 19.8 23.6 27.7 25.9	1 809.5 1 757.7 1 575.9 1 876.5 1 791.7	89.4 75.4 93.9 93.6 94.5	.365 .343 .330 .374 .352	.380 .402 .397 .336 .367	.030 .048 .038 .036 .021	.010 .015 .012 .011 .010
South Carolina South Dakota Tennessee Texas Utah	14.8 4.3 15.1 10.4 8.1	18.5 15.4 23.5 21.0 23.0	1 901.4 1 452.5 1 797.1 1 784.1 1 797.2	57.1 69.3 70.4 80.5 94.0	.388 .280 .399 .334 .312	.357 .466 .375 .387 .452	.034 .022 .034 .033 .040	.018 .012 .013 .015 .017
Vermont	5.2 11.7 9.4 8.7 8.4 7.0	19.5 20.9 26.1 22.1 25.1 20.3	1 880.1 1 846.7 1 664.0 1 699.1 1 765.7 1 860.2	81.5 76.7 96.8 67.7 87.6 76.1	.312 .338 .350 .400 .370 .351	.452 .403 .404 .340 .401 .427	.006 .026 .032 .010 .016 .015	.010 .014 .018 .009 .010



## APPENDIX A. Explanation of Terms

Construction—Is composed of three broad categories:

- New construction—Includes the complete, original erection of structures and essential service facilities and the initial installation of integral equipment such as elevators, and plumbing, heating, and air-conditioning supplies and equipment.
- Additions, alterations or reconstruction—Includes construction activity making structural changes to existing facilities. Generally, this type of activity is considered a capital investment in the property.
- 3. **Maintenance and repair**—Includes construction done for the purpose of upkeep of property rather than additional investment in the property.

Examples of the general distinction between maintenance and repair and reconstruction are provided here: roof repairs, including the replacement of shingles, gutters, etc., are classified under maintenance and repairs. A complete reroofing, however, is classified as reconstruction.

Number of establishments in business during year—Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

**Proprietors and working partners**—These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

All employees—Comprise all full-time and part-time employees on the payrolls of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not.

All employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

Construction workers—Includes all workers up through the working foreman level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category but are included in the "other employees" category.

Other employees—Includes employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

Construction worker hours—Includes the total number of hours worked by construction workers. Construction worker hours were collected for each of the four quarters of 1987.

Payroll—Includes the gross earnings paid in the calendar year 1987 to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if an unincorporated concern.

Employer costs for fringe benefits (supplemental labor costs)—Represents expenditures made by the employer during 1987 for legally required and voluntary fringe benefit programs for employees.

Legally required contributions—Include Social Security contributions, unemployment compensation, workman's compensation, and State temporary disability payments.

Voluntary payments—Include life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Dollar value of business done comprises the following detail:

Value of construction work done—Includes all value of construction work done during 1987 for construction work performed by general contractors, special trades contractors, subcontractors, and land development and improvement work. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.

Builders were instructed to include the value of buildings and other structures built or being built for sale in 1987 but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators, etc., were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment which are not an integral part of a structure.

Land receipts—Includes receipts from the sale of land, whether held for sale or sold in connection with the sale of houses and other structures. It excludes the value of any improvements made to the land prior to the sale. (That value was to be included in the value of construction work done.)

Other business receipts—Includes business receipts not reported as value of construction work done or land receipts. The item includes business receipts from retail and wholesale trade, rental of equipment, manufacturing, transportation, legal service, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here.

Excluded was the value of construction work done and receipts from other business operations in foreign countries and non-operating income such as interest and dividends.

Net value of construction work—Derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

Value added—Derived for each establishment, value added is equal to dollar value of business done, less costs for construction work subcontracted to others, and costs for materials, components, supplies and fuels. For SIC 6552 and SIC 1531, for which land receipts are significant, land receipts are also subtracted from dollar value of business done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

Selected costs—Represents the costs for materials, components, and supplies; costs for construction work subcontracted to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

Costs for materials, components, and supplies include:

- total costs to reporting establishments during 1987 for the purchase of all materials, components, and supplies, except fuels. (Supplies include expendable tools which are charged to current accounts.)
- freight and other direct charges should represent only amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company.
- costs for materials, components, and supplies used by the reporting establishments in the construction or reconstruction of buildings/structures for themselves which are chargeable to their fixed assets accounts, are included in this item as are costs for materials bought and resold to others.
- costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use.

#### Excluded from this item are:

- industrial and other specialized machinery and equipment, such as printing presses; computer systems;
   etc., which are not an integral part of a structure
- materials furnished to contractors by the owners of projects.

Costs for construction work subcontracted to others include:

all costs during 1987 for construction work subcontracted out to other construction contractors.

#### Excluded from this item are:

- The costs to the reporting establishment for its purchases of materials, components, and supplies, provided to a subcontractor for his use. Such costs are reported under a separate category, "costs for materials, components, and supplies."
- costs for the rental of machinery or equipment.

Costs for selected power, fuels, and lubricants include:

- costs for fuels, lubricants, and electric energy purchased during the year from other companies, or received from other establishments of the company.
- costs for natural and manufactured gas, fuel oil, coal and coke products, etc.

Rental costs for machinery, equipment, and buildings—Includes all costs during 1987 for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It

excludes costs for the rental of land. It also excludes costs under agreements which, in effect, are conditional sales contracts such as capital leases. Such costs are included in "capital expenditures."

Selected purchased services—Includes all costs during 1987 for communication services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies, or from other establishments of the same company. It includes only the cost of that repair necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property, or the cost of adapting it for another use. Such costs are included in "capital expenditures".

Assets and depreciation—Refers to the original cost of all fixed tangible assets such as buildings and other structures (offices, shops, etc.); stationary machinery (generators, shop equipment, etc.); mobile machinery (tractors, trucks, etc.); and other equipment (office furniture and fixtures, etc.). Not included are such items as current assets, depletable assets, intangible assets, and nondepreciable assets.

Data on assets and depreciation were collected separately for: (1) buildings and other structures, additions, and related facilities; and, (2) machinery and equipment.

Respondents were also asked to report capitalized expenditures, depreciation charges, and the gross value of assets sold, retired, scrapped, destroyed, etc., during 1987.

Capital expenditures—Refers to all costs actually incurred during 1987 which were or would be chargeable to the fixed assets accounts of the reporting establishments and which were of the type for which depreciation accounts are ordinarily maintained. These expenditures cover the acquisition, the construction, and the major alteration of the reporting establishment's own buildings and other structures, whether purchased, constructed under contract, or constructed by the reporting establishment's own forces; and the acquisition of machinery and equipment.

If leasing arrangements met the criteria set down by the Financial Accounting Standards Board (FASB) for a capital lease, respondents were instructed to report the original cost or market value of that equipment or building as a fixed asset and capital expenditure if acquired during 1987.

If capital expenditures were not recorded directly at the establishment level but handled centrally at the company or division level, respondents were requested to report appropriate estimates for the individual establishments.

**Inventories**—Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others, but held by the reporting establishment.

Builders who built on their own account for sale were requested to report work in progress and finished units not sold for buildings and other structures built for sale. Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

Ownership of construction projects—This item shows the distribution of the value of construction work done by ownership of the project, that is, Government owned or privately owned. This classification relates to the ownership of the projects or work undertaken during the construction phase. Government owned projects are shown separately for Federal, and State and local governments.

Value of construction work subcontracted in from others—Includes the value of construction work during 1987 for work done by reporting establishments for other construction contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

Types of construction—This item provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in 1987. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose, i.e, office and residential, or commercial, they were to classify the building by major purpose.

In addition all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. See the definition of "Construction" for the meanings of these terms.

Building construction:

- Single-family houses, detached—Includes al! residential buildings constructed for one family use.
- Single-family houses, attached (include town-houses)—Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken wall from ground to roof.
- Apartment buildings with two or more apartments—Includes high-rise, low-rise, or any structures containing two or more housing units (excluding attached single-family houses and townhouses described above).
- Hotels and motels—Includes hotels, motels, and tourist cabins intended for transient accommodations.

- Other residential buildings—Includes dormitories, fraternity and sorority houses, nurses homes, and other nonhousekeeping residential structures.
- Office buildings—Includes all buildings which are used primarily for office space or for government administrative offices. Also included are banks or financial buildings which are three stories or more.
- Other commercial buildings, such as stores, restaurants, and automobile service stations— Includes all buildings which are intended for use primarily in the wholesale, retail, and service trades.
   For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- Industrial buildings—Includes all industrial buildings and plants which are used to house production and assembly activities. Heavy industrial facilities such as blast furnaces, petroleum refineries, chemical complexes, etc., are not included in this category, but under nonbuilding construction.
- Warehouses—Includes commercial warehouses, cold storage plants, grain elevators, mini-warehouses, and other such storage buildings.
- Religious buildings—Includes all buildings which are intended for religious services or functions, such as churches, synagogues, convents, monasteries, and seminaries.
- Educational buildings—Includes all buildings which are used directly in administrative and instructional activities, such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories which are not a part of a manufacturing establishment, are also included.
- Hospitals and institutional buildings—Includes all buildings which are intended to provide hospital and institutional care, such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- Farm buildings, nonresidential—Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- Amusement, social, and recreational buildings— Includes buildings which are used primarily for entertainment, social and recreational activities, such as sports arenas, theaters, music halls, golf and country club buildings, skating rinks, bowling alleys, and indoor swimming pools.
- Other nonresidential buildings—Includes nonresidential buildings which are not classified elsewhere, such as fire stations, prisons, civic centers, bus and air passenger terminals and hangars.

Nonbuilding construction:

- Highways, streets and related work, such as installation of guardrails, highway signs, etc.—Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, right-of-way drainage, erosion control and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- Outdoor swimming pools—Includes wading pools and reflecting pools.
- Recreational facilities—Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- Bridges and elevated highways—Includes viaducts and overpasses; roads, highways, railroads, and causeways built on structural supports.
- Tunnels—Includes highway, pedestrian, and railroad tunnels.
- Railroad construction—Includes the construction of railroad beds, tracks, freight yards, and signal towers.
- Subway construction—Includes urban mass transit subway systems above or below ground.
- Dam and reservoir construction—Includes hydroelectric, water supply, and flood control dams and reservoirs.
- Marine construction—Includes dredging, underwater rock removal, breakwaters, navigational channels, jetties, and locks.
- Harbor and port facilities—Includes docks, piers, and wharves.
- Conservation and development construction— Includes land reclamation, irrigation projects, drainage canals, levees, and flood control projects.
- Power and communication transmission lines, towers, and related facilities—Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, electric light and power facilities.
- Power plants, except nuclear—Includes electric and steam generating plants.
- Power plants, nuclear—Includes atomic energy plants, and nuclear reactors.
- Sewers, sewerlines, and related facilities—Includes sanitary and storm sewers, and related facilities.
- Sewage treatment plants—Includes sewage treatment and waste disposal plants.
- Water mains and related facilities—Includes water supply systems and related facilities.

- Water treatment plants—Includes water filtration and water softening plants.
- Pipeline construction other than sewer or waterlines—Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- Blast furnaces, petroleum refineries, chemical complexes, etc.—Includes coke ovens, and mining appurtenances such as tipples and washeries.
- Other nonbuilding construction—Includes all types of nonbuilding construction, not included elsewhere.



### APPENDIX B.

## Standard Industrial Classification Titles for Industry Groups and Industries

SIC		SIC	
code	Industry titles	code	Industry titles
15	BUILDING CONSTRUCTION—GENERAL CONTRACTORS AND OPERATIVE BUILDERS	17	CONSTRUCTION—SPECIAL TRADE CONTRACTORS—Con.
152	General Building Contractors—Residential Buildings	<b>173</b> 1731	Electrical Work Special Trade Contractors Electrical Work Special Trade Contractors
1521 1522	General Contractors—Single-Family Houses General Contractors—Residential Buildings, Other Than Single-Family	174 1741	Masonry, Stone Work Tile Setting, and Plastering Special Trade Contractors  Masonry, Stone Setting, and Other Stone Work Special Trade Contractors
<b>153</b> 1531	Operative Builders Operative Builders	1742	Plastering, Drywall, Acoustical, and Insulation Work Special Trade Contractors
154	General Building Contractors—Nonresidential Buildings	1743	Terrazzo, Tile, Marble, and Mosaic Work Special Trade Contractors
1541	General Contractors—Industrial Buildings and Warehouses	175	Carpentry and Floor Work Special Trade Contractors
1542	General Contractors—Nonresidential Buildings, Other Than Industrial Buildings and Warehouses	1751 1752	Carpentry Work Special Trade Contractors Floor Laying and Other Floor Work Special
16	HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION—		Trade Contractors, Not Elsewhere Classified
	CONTRACTORS	176	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
161	Highway and Street Construction, Except Elevated Highways	1761	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
1611	Highway and Street Construction Contractors, Except Elevated Highways	<b>177</b> 1771	Concrete Work Special Trade Contractors Concrete Work Special Trade Contractors
<b>162</b> 1622	Heavy Construction, Except Highway and Street Construction Bridge, Tunnel, and Elevated Highway	<b>178</b> 1781	Water Well Drilling Special Trade Contractors Water Well Drilling Special Trade Contractors
	Construction Contractors	179	Miscellaneous Special Trade Contractors
1623	Water, Sewer, Pipeline, and Communications and Powerline Construction	1791	Structural Steel Erection Special Trade Contractors
1629	Heavy Construction, Not Elsewhere Classified	1793	Glass and Glazing Work Special Trade Contractors
17	CONSTRUCTION—SPECIAL TRADE CONTRACTORS	1794 1795	Excavation Work Special Trade Contractors Wrecking and Demolition Work Special
171	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1796	Trade Contractors Installation or Erection of Building Equipment,
1711	Plumbing, Heating, and Air-Conditioning Special Trade Contractors		Special Trade Contractors, Not Elsewhere Classified
172	Painting and Paper Hanging Special Trade Contractors	1799	Special Trade Contractors, Not Elsewhere Classified
1721	Painting and Paper Hanging Special Trade Contractors	6552	LAND SUBDIVIDERS AND DEVELOPERS, EXCEPT CEMETERIES



## APPENDIX C. GEOGRAPHIC DIVISIONS AND STATES

### **NEW ENGLAND STATES**

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

### MIDDLE ATLANTIC STATES

New Jersey New York Pennsylvania

### **EAST NORTH CENTRAL STATES**

Illinois Indiana Michigan Ohio Wisconsin

### WEST NORTH CENTRAL STATES

Iowa Kansas Minnesota Missouri Nebraska North Dakota South Dakota

### **SOUTH ATLANTIC STATES**

Delaware
District of Columbia
Florida
Georgia
Maryland

### SOUTH ATLANTIC STATES-Con.

North Carolina South Carolina Virginia West Virginia

### EAST SOUTH CENTRAL STATES

Alabama Kentucky Mississippi Tennessee

### **WEST SOUTH CENTRAL STATES**

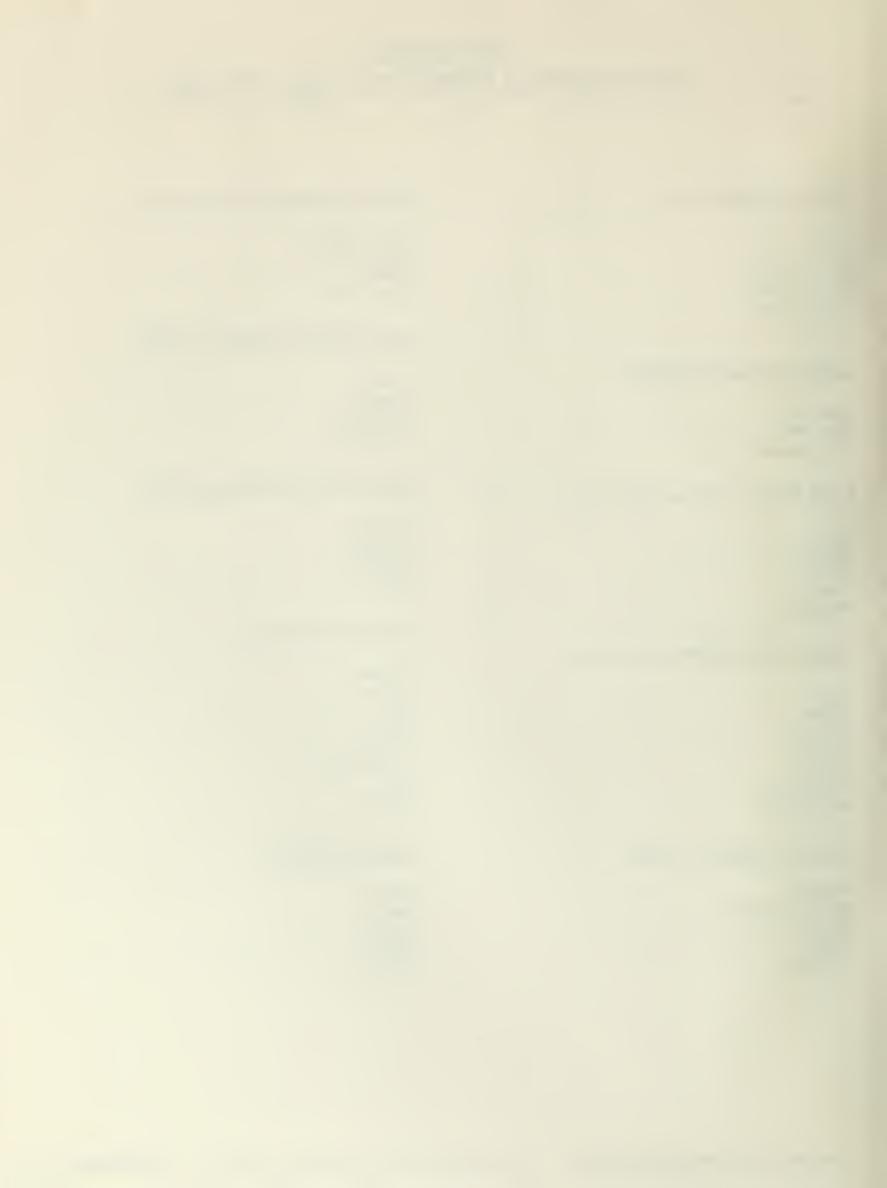
Arkansas Louisiana Oklahoma Texas

#### **MOUNTAIN STATES**

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

### **PACIFIC STATES**

Alaska California Hawaii Oregon Washington

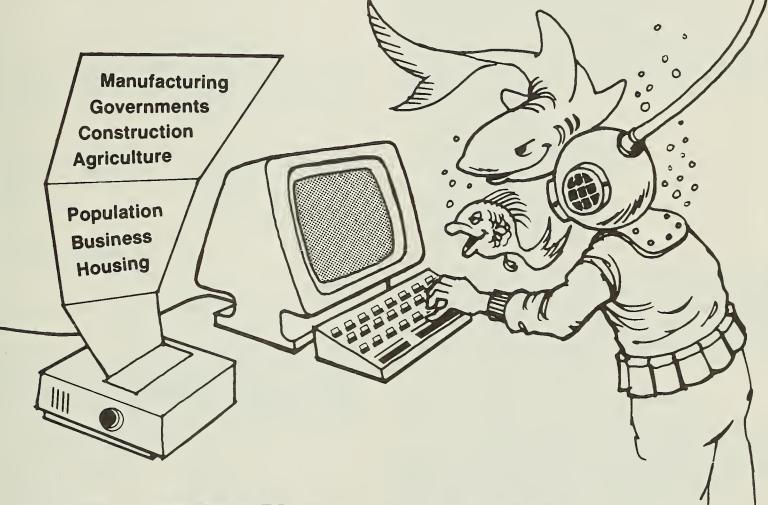


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### **PUBLICATION PROGRAM**

### 1987 CENSUS OF CONSTRUCTION INDUSTRIES

The Census of Construction Industries is taken once every 5 years. The census covers all establishments engaged in construction, including:

- Building contractors
- Heavy construction contractors
- Special trade contractors (including plumbers, carpenters, painters, electricians)
- Land developers and subdividers

Data products in the Census of Construction Industries are issued in 4 publication series and in 3 other media:

Printed reports

• CD-ROM

[C]

Computer tape

[T]

Highlights online

[+]

### **Preliminary Industry Series** (CC87-I-1(P) through CC87-I-28(P))

(Available November 1988 through May 1989) [P]

Twenty-seven separate industry reports and a United States summary report, providing national statistics for establishments with payroll. Statistics shown for 1987 include:

- Number of employees
- Pavroll
- Hours worked
- Number of establishments
   Value of construction work
  - done, by type of struc-
  - ture
  - Selected operating costs

### **Final Industry Series** (CC87-I-1 through CC87-I-28)

(Available June 1989 through November 1989) [P] [C] [T] [+]

Twenty-seven separate industry reports and a United States summary report, providing statistics for the Nation and individual States on establishments with payroll. These reports update figures from the preliminary industry series (employment, payroll, value of construction, etc.) and provide measures of the following:

- Capital expenditures
- Inventories
- Industry profiles
- Assets
- Depreciation
- · And much more

### Geographic Area Series (CC87-A-1 through CC87-A-10)

(Available January 1990 through March 1990) [P] [C] [T] [+]

Nine reports on the construction industries, representing each census geographic division, and a United States summary report. Regional reports provide detailed data for States and metropolitan statistical areas.

### Subject Report—Legal Form of Organization and Type of Operation (CC87-S-1)

(Available May 1990) [P]

One report providing selected national statistics for each industry by legal form of organization and type of operation. This report includes data for establishments with and without payroll. Data in this report include-

- Employment
- Payroll
- Value of construction work done
- Selected operating costs

### OTHER ECONOMIC CENSUSES REPORTS

The Census of Construction Industries is part of the 1987 Economic Censuses. These are conducted at five-year intervals in years ending in 2 and 7 and consist of seven separate censuses:

- · Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction

...plus several related programs: enterprise statistics; information on minority-owned and women-owned businesses; and the Census of Outlying Areas, including separate economic censuses of Puerto Rico and other outlying areas. The Census of Agriculture and Census of Governments are conducted separately.

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